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WILDLIFE IN NORTH CAROLINA

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WILDLIFE IN NORTH CAROLINA
2014 PHOTO COMPETITION

WILDLIFE IN NORTH CAROLINA

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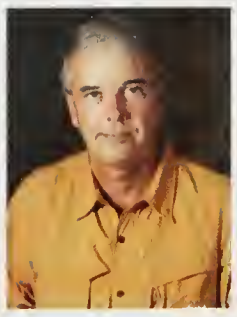
Cover: This image of a great egret, with its reflection upon the waters of a Lake Mattamuskeet canal, was the Grand Prize winner in our 2014 *Wildlife in North Carolina* Photo Competition. PHOTOGRAPH BY NEIL JERNIGAN.

Wildlife in North Carolina is the official educational publication of the North Carolina Wildlife Resources Commission. It is dedicated to the sound conservation of North Carolina's wildlife and other interrelated natural resources and also to the environment we share with them.



EDITOR'S NOTE

When I was a boy my aspirations were simple, or so I believed. I dreamed of becoming a pitcher for the New York Yankees and a quail hunter. I figured by the time I'd wrapped up another World Series title for the Bronx Bombers, I'd be back in North Carolina in time to relax a bit before quail season began.

N.C. ARCHIVES AND HISTORY

Lack of talent ended the first dream; a lack of birds wrote finis to the second, at least in my case. I know hunters who do successfully chase wild quail to this day, and I've gone with a few of them, but it's a different quail hunting than I experienced growing up in Granville County, where I would walk out the back door and hunt for a few hours. Hunting by jumping over half the county would take some getting used to for me, and I've not made the transition — or truthfully the effort.

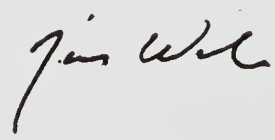
Perhaps I'm just lazy or spoiled for days that will never return. Those quail-hunting days of my youth are some of the most vivid memories of my life, and there's nothing like a winter field of ocher broomstraw or the sight frost-heaved red clay to start them tumbling through my mind, dragging with them memories of the men I so admired, the old quail hunters.

Most of those old men (and I realize now that most of them were younger then I am now), I never had a good grasp of what they did for a living. One worked the tobacco market in season, my dad worked for Burlington Industries, but the others I knew only as quail men, which I believed was the highest calling a fellow could aspire to.

North Carolina writer Robert Ruark was spot-on in his assessment of man and quail:

"Apart from his courage and trickiness in the field, the bobwhite has the power of inspiring magnificent nostalgia in the evening, when the fire snaps and hisses and the bourbon melds gently with the branch-water. He tastes as good on the plate as he looks in the field, and no bird of paradise was ever handsomer to the hunter than his little brown gentleman's gentleman."

It is with more than nostalgia I think of those men now. I see their cold, cracked hands cradling a bobwhite before slipping it into the game bag of a hunting coat. And I can still smell the sharp odor of a recently fired shotgun shell as we turn and walk away, leaving another field empty until our return.



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Missy's mission

An Issue to Remember

The November–December edition of *Wildlife in North Carolina* is just superb! From the interesting (as usual) letters to the wonderful stories, they all make it a keeper.

I couldn't decide whether "The Christmas Squirrel" was the best or "Missy's Mission" took the prize, but I'll share these and other articles with my grandchildren and my two great-grandsons. Heartwarming stories that convey the positive message we old folks hope to pass along to future generations.

I never had a chance to try fly-fishing or even tying flies, but even at my advanced age, it made me yearn to try a Royal Wulff!

Congratulations on one of the best of your magazines, and I've been reading them for a very long time. Oh, and those talented, spirited dogs. What a joy.

Patty Broderick
Mooresville

I enjoyed the two articles on the Royal Wulff in the November–December issue of *Wildlife in North Carolina*. I spend summer months working as a fly-fishing guide in Lake City, Colorado and echo Ian Privette's report from Montana last summer: In the high country of Colorado trout, especially wild cutthroat, were on fire for the Royal Wulff!

As with many trout fishermen, Lee Wulff has always been my hero.Tight lines!

Jim Hendrix
Cashier

Women in the Woods

It is wonderful to see young women donning camo clothing and taking to the field in search of the wonderful experiences of nature through hunting and fishing. I am proud to say that my love of the outdoors was passed down in a time-honored fashion to my son and daughter as they were growing up. The time we spend with our children in the field is filled with many peaceful and exciting moments, making memories that will last a lifetime.

On this particular day we were hunting from a tower stand I had constructed big enough for two to hunt comfortably. The evening was bright and clear with a little nip in the air. We are scanning the new growth pine for any sign of deer as we patiently wait. Then about 30 minutes before sunset the silence was broken with a whisper from my daughter, "There's a deer." She's a very confident 13-year-old holding my first deer rifle, a "thuddy-thuddy" which she still hunts with today. I look into her eyes peeping through the camo face net, wide with the excitement of the moment seeing her first deer, and a buck at that! The little spike had just poked his head out into the shooting lane from the thick brush at around 75 yards to reveal only his head and neck staring straight at us. I thought we had been had. I whispered, "Don't move."

I realized he had not made us but was checking out the blind. I whispered to my daughter the actions that the deer would take when he relaxed and to be ready when he put his head down to walk across the shooting lane, and get the rifle up and be ready as he was walking. She did exactly as I instructed but as she laid the rifle on the shooting rail it made a little bump. The spike stopped in the middle of the shooting lane, perfectly broadside and stared. My daughter was set. She cocked the hammer as I coached her where to aim on the deer. The next few moments seemed like an eternity. I looked at the deer and then looked at my daughter. She was aiming and aiming and aiming and aiming. I looked at the deer. I looked at her. I looked at the deer. I looked at her. It was like time had stood still. I whispered, "shooooooot." Nothing.

I was beginning to think the deer was going to explode at any moment in a mad dash to parts unknown. My heart was pounding in my chest with anticipation and I knew she was experiencing the same but the rifle was steady as a rock. As I looked back to the deer once more, the fire from the muzzle flashed in the fading light and the silence was shattered with a boom. The deer ran but the reaction of the deer proved it was a good hit. High fives and hugs followed immediately with fist pumping yesses and a smile that would put the sun to shame. You'd think she had just shot a huge 12-pointer. Of course, to me the sense of pride being with my daughter as she harvested her first deer was worth more than can be explained.

She was ready to go and get HER deer, but I explained we needed to give it a little time and not to rush and the reason for patience. I told her that I had an idea where the deer was and would go ahead, but for her to keep tracking for the experience. I walked around a briar patch another 30 yards and there he lay. As I looked back I could see my daughter intently searching for signs. I called to her, "Here he is." In her excitement she made a dash right through the middle of the briar patch to get to me and the deer. High fives were exchanged and then she stated, "I'm dragging him out!" Of course, dad provided a little help. A hunter had been born.

She now is the mother of my two wonderful grandchildren and shares a deer blind with them this season.

Virran Crump
Albemarle

We want Your Feedback

Do you have a comment about content in *Wildlife in North Carolina?* Questions about something you read or have seen? Send us an e-mail at letters@ncwildlife.org.

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Neil Jernigan's excitement in learning he won the overall prize for the 2014 *Wildlife in North Carolina* Photo Contest was palpable even via email: "I'm speechless! Thank you so much! You have no idea how much this means to me!"

But, this is not the first time for Jernigan. He won the Youth 13–17 category in 2008. "That sort of started a fire in me," he said. "I've entered every year but one since then."

Jernigan, 23, has been shooting "seriously" for about seven years and does wedding and portrait photography when not traipsing about the backwoods of North Carolina photographing wildlife or working part time in a Greenville photography store. He caught the camera bug early, as he and his father would photograph and video their hunts together. He's an avid outdoorsman and counts deer hunting and fishing for striped bass among his passions. He graduated from Lenoir Community College in 2010.

His winning photo is a great example of maximizing an unplanned opportunity. He and a friend were at Lake Mattamuskeet scouting areas to use for a photography workshop.

"When we pulled up I saw the egret about 100 yards away and I saw the reflection," he said. "I switched from evaluative to spot metering and metered off the white feathers. He was standing in the only sunlight in the canal."

Marsha Tillett, the art director at *Wildlife in North Carolina*, commented on this year's offerings, including Jernigan's Grand Prize winner. "As we have come to expect, this year's competition was filled with many wonderful images of our state and wildlife," she said. "The image we chose to be the grand prize winner stood out because it was such a peaceful image and so beautifully lit. The composition of the egret and the mirrored silhouette came together to create a beautiful image, and the negative space accentuated the lovely angles of the bird."

This was the third year the competition was open only to subscribers (for adults), and several top pictures were disqualified for this reason. We had a little over 1,200 entries broken down as follows: Birds, 222; Animal Behavior, 136; Invertebrates, 157; Mammals, 135; Outdoor Recreation, 97; Reptiles and Amphibians, 113; Wild Landscapes, 181; Wild Plants, 117; Youth 12 and Under, 12; and Youth 13–17, 49.

The other four judges for this year's contest were staff graphic designers Amy Friend and Bryant Cole and staff photographer Melissa McGaw. Mike Dunn, retired senior manager of outreach at the N.C. Museum of Natural History, was also a judge. All winning photographs may be seen on exhibit through March at the N.C. Museum of Natural Sciences in Raleigh and on our website at ncwildlife.org.

–Mike Zlotnicki

Neil Jernigan, Snow Hill
Great egret, Lake Mattamuskeet

While searching for wildlife to photograph at Lake Mattamuskeet National Wildlife Refuge, I came across this great egret. It was on the edge of a canal feeding on small fish. I immediately noticed its perfect mirrored reflection. I switched my camera to spot metering and metered off its white feathers. With the egret being lit by the sun along with the shaded area behind, I was able to get a high enough shutter speed to basically cancel out the foreground and background, allowing only the egret and its reflection to show.

(Canon 5D Mark III, Canon 500mm f/4 IS II, ISO 100, f/4, 1/1000 of a second)

BIRDS **FIRST PLACE**

Charles English, Wilmington
White egret, Wilmington

I was out at Airlie Gardens in the afternoon in May trying to get some nice egret shots, and noticed some of the birds were carrying moss from trees on one side of the lake to the opposite side. I started shooting as they landed and shot about 150 frames in about a 20-minute period. This one was the one I was after with the wings out and the feet at different angles right before touch down. The image looked very graceful.

(Canon 1D Mark IV, 500mm f/4 with a 1.4x, ISO 800, f/6.3, 1/3200 of a second, manual mode)

BIRDS **SECOND PLACE**

Catherine McEntee, Rock Hill, S.C.

Cedar waxwing, Hampstead

A flock of cedar waxwings were in my yard in the morning feasting on holly berries in the front yard. I got my camera and got a few images. During the late afternoon however, the flock had returned and were in my neighbor's trees and helping themselves to a drink from my bird bath. I got my camera out again and saw this cedar waxwing on a branch of berries I put by my bird feeders the week before hoping to get some nice cardinal photos. Next thing I know this cedar waxwing was throwing back a bunch of berries and I got the shot.

(Nikon D7100, Nikon 500mm f/4, ISO 1600, f/5.6, 1/640 of a second, Nikon SB900 used as fill flash)

BIRDS **THIRD PLACE**

Colin Knight, Rock Hill, S.C.

Snowy owl, Ocracoke

I made several trips up and down the East Coast trying to find the best place to photograph last year's rare Southern snowy owl migration. The Outer Banks proved to be the best location and I made several visits. This image was taken on the first visit. A sharply receding shoreline provided a nice pool of water between the bird and myself, which made her feel secure enough for me to move in, take the photograph and move out without flushing.

(Canon 1Dx, 500mm +2.0xTC for a 1000mm focal length, ISO 800, f/10, 1/2000 of a second)

MAMMALS FIRST PLACE

Charles English, Wilmington
Red fox, Wilmington

I was out early that morning hoping to get some good shots of the fox kits. As I looked around I saw the adult sitting about 40 yards from me. When I looked through the viewfinder I saw how well she was lit with her head turned. With the incoming light reflecting off the trees and just a touch of purple from one of the azaleas, it looked like a keeper.

(Canon 1Dx, 500f4 ll, ISO 800, f/4, 1/250 of a second)

MAMMALS **SECOND PLACE**

Neva Scheve, West End
Twin fawns, West End

My tractor was out of commission, so my horse pasture had gotten overgrown. One July morning while feeding my horses, I threw out a bucket of water and two fawns jumped up and ran away from about 30 feet away from my barn. I was afraid I had frightened them away, and the mother wouldn't be able to find them. Two mornings later, I saw their little ears peeking up from the grass. I ran to the house for my camera and sneaked up as close as I could without spooking them. One was very curious and watched me as I clicked away. For the entire month of July, they were there every morning, giving me many more opportunities to photograph them.

(Nikon D800, Tamron 200–500mm lens at 500mm, ISO 1000, f/9, 1/800 of a second)

MAMMALS **THIRD PLACE**

Kim Wilhite, Paoli, Indiana
Wild horse, Carrot Island

Having always had a love of horses and the beach, discovering the wild horses at the Outer Banks was very exciting! My first trip was in 2012, and I have returned each year since. This particular afternoon was spent observing about a dozen horses at a watering hole. Not much activity or opportunity for action shots. Just heads down and drinking. This stallion had started wandering off into the tall grass. He stopped, turned around and stared at me for a few moments. The sun was setting and it framed him beautifully. It was worth the wait.

(Canon 5D Mark III, Canon 100–400mm f4.5–5.6L IS USM at 400mm, ISO 1000, f/8, 1/640 of a second, Induro INCT314 Carbon 8X CT314 Tripod,Really Right Stuff: BH-40 LR: mid-sized ballhead)

REPTILES & AMPHIBIANS **FIRST PLACE**

Patti White, Bear Creek
Bullfrog, Bear Creek

This image was shot lying in a big mud puddle with a bullfrog, trying my best to keep a Nikon D7000 and a Nikon 70–200 lens out of the water. It was a little messy but worth the extra effort.

(Nikon D7000, Nikon 70–200mm at 200mm, ISO 400, f/4, 1/320 of a second)

REPTILES & AMPHIBIANS
SECOND PLACE

Catherine McEntee, Rock Hill, S.C.
American anole, Hampstead

I was on my deck and noticed this American anole had jump onto my banana plant. I grabbed my camera from inside the house and slowly walked toward the anole. I squatted down and aimed the camera up to get a different perspective. The anole was surprisingly very cooperative and turned out to be quite photogenic!

(Nikon D7100, Sigma 150mm macro, ISO 800, f/8, 1/500 of a second)

REPTILES & AMPHIBIANS
THIRD PLACE

Ed Ziegler, Raleigh
American anole, Raleigh

One of my favorite shooting locations is Durant Nature Preserve. Near the lake one can find an area simply known as the "bog." It offers opportunities during the summer months to photograph varied types of insects and other critters. Maintaining a combination of patience, and a watchful eye will occasionally yield unsuspected surprises. A slight movement in a bush captured my attention. It was a grand surprise. My first anole. It was anything but timid, and seemed to be pleased to have some company nearby. It posed nearly an hour for me before disappearing in the thick underbrush.

(Canon EOS 1D Mark IV, Canon EF300mm f/4L IS USM with 1.4 extender (420mm focal length), ISO 400, f/5.6, 1/400 of a second)

INVERTEBRATES FIRST PLACE

Frank Ellison, Clemmons
Assassin fly, Clemmons

I found this assassin fly on the sidewalk by my car as we were on the way to a ballgame. I jumped out of the car, opened my trunk and grabbed my camera. I fired a few shots and he was gone. It was less than two minutes from the time I saw him until he left. Always have a camera ready—you never know what will show up. And remember, never kill one of these flies because they kill other bigger flies that bite.

(Nikon D700, 60mm/2.8 lens, ISO 200, f/16, 1/60 of a second, front curtain flash mode)

INVERTEBRATES **SECOND PLACE**

Dan Mele, Asheville
Horse fly, Cedar Mountain

Early morning hiking through DuPont State Forest on the edge of the trail I spotted a female Tabanidae on a stick that fit perfectly as if it were a stage. I shot the fly from multiple different angles, and found the hardest part was focusing on the dew droplets to properly expose them. I've gained a greater appreciation for horse flies and deer flies through this experience.

(Canon 5D Mark III, Canon EF 100mm 2.8L IS USM Macro, ISO 800, f/16, 2.0 seconds, Manfrotto tripod)

INVERTEBRATES **THIRD PLACE**

Skip Sickler, Newland
Butterfly on flower, Grandfather Mountain

This image was captured in the butterfly garden on Grandfather Mountain during the August 2013 Camera Clinic, an annual workshop established by Hugh Morton in 1952. The original image was a shot of the entire butterfly and surrounding flowers. I was particularly drawn to the symmetry and geometric patterns of the wings. Wanting to draw the viewer's attention to this detail, I cropped tight, using a panoramic aspect.

(Nikon D3s, Sigma 150mm f2.8 macro, ISO 800; f/4, 1/1250 of a second, EV: -1/3: Aperture Priority)

WILD PLANTS **FIRST PLACE**

Daniel Beauvais, Kitty Hawk
Tuft of grass, Wanchese

A friend and I inspire each other by going out together to make photographs early each Friday morning. Bundled against the January cold, I found this tuft of grass in the pond as we explored Roanoke Island Marshes Game Land, near Wanchese. The still water reflected the colors of the clouds and sky, moments after sunrise.

(Nikon D800, Nikon 28–300mm f/3.5–5.6 lens at 200mm, ISO 100, f/16, 1/10 of a second, tripod mounted)

WILD PLANTS
SECOND PLACE

Dennis Hacker, Hickory
Fungi, Blowing Rock

"Golden Ears" is a back-lit fungi image taken at Hickory Ridge Living History Museum in Blowing Rock. Light has really been the subject of many of my favorite images. It surely was light that attracted my eye with this image. The fungi were on a log leaning against an old building giving the sun a perfect chance to provide back lighting. We were on a field trip with the Catawba Valley Camera Club.

(Canon G11, 24mm, ISO 100, f/8, 1/40 of a second with tripod)

WILD PLANTS
THIRD PLACE
Matt Williams, Raleigh
Mimosa flowers, Raleigh

The vibrant flowers of a mimosa tree have always been a favorite of mine. I came across this one on an afternoon walk and noticed the branches were low enough to take some macro shots. The late afternoon lighting was perfect, highlighting this single bud starting to bloom. I used a fully-bloomed flower as the backdrop that was also illuminated by the afternoon sun. I chose to use a shallow depth of field to make the subject stand out against the vibrant background while also including a few stamen tips from the flower behind it for added interest.

(Nikon D90, Nikon 55mm AIS 2.8 macro lens, ISO 250, f/2.8, 1/500th of a second)

OUTDOOR RECREATION **FIRST PLACE**

Ashley Morrison, Little River, S.C.

Kayakers, Sunset Beach

Without a doubt the North Carolina Intracoastal Waterway is one of my favorite subjects to shoot. Simple, peaceful, elegant and vast. On a warm June late afternoon I decided to make the short trip to Sunset Beach from my home in Little River, S.C. Walking up the Mannon C. Gore Bridge I watched as the kayakers paddled through the coastal marshes. With the sun beginning to set, I reached the peak of the bridge and realized I could also capture a glimpse of North Myrtle Beach in the distance. I chose to convert the picture, not only because I really prefer black & white, but because it just seemed to fit this photo much better.

(Nikon D3200, 175mm, ISO 400, f/4.9, 1/200 of a second)

OUTDOOR RECREATION
SECOND PLACE

Daniel Beauvais, Kitty Hawk
Kite flyer, Nags Head

On the Saturday after Thanksgiving, the staff of a local kite store fastens generator-powered holiday lights to kites and sends them soaring for the annual Kites with Lights festival atop Jockey's Ridge, the East Coast's largest sand dune, in Nags Head. Minutes before sunset, a young man prepared to launch his American flag-themed kite. I was struck by the color intensity of the back-lit kite. I got five shots in two seconds, then the opportunity was gone.

(Nikon D300, Nikon 18–200 f/3.5–5.6 lens at 135mm, ISO 200, f/16, 1/200 of a second)

OUTDOOR RECREATION
THIRD PLACE

Ed Ziegler, Raleigh
Sunrise surf fishing, Emerald Isle

Spending time at a North Carolina beach during the month of September has become an annual event for me. Dawn always seems to reveal a number of early risers scattered along the shore enjoying the sport of surf fishing. On this particular morning a combination of a beautiful sky, a lighted pier and a very still subject provided me with an opportunity to capture this 5-second exposure which in turn created the silky appearance of the rushing sea.

(Canon EOS-1D Mark IV, Canon EF70–200 f/2.8L IS II USM with 1.4 extender (280mm) ISO 200, f/8, 5-second exposure)

WILD LANDSCAPES **FIRST PLACE**

Paul Malcolm, Garner
Fog in trees, Blue Ridge Parkway

This picture was taken on July 26 of last year. I was staying at my daughter's house near Asheville and awoke to a foggy morning. I have finally learned that waking up to fog is one of the best reasons to drive up the Blue Ridge Parkway. I got a nice sunrise shot and moved on down the parkway to Pounding Mill Overlook. There is often fog in the valleys around there, but that day the early light of the sun cast interesting shadows in the fog. I wanted a close-up of this and zoomed out to 350mm with my telephoto lens. I had shot similar pictures to this, but I think on this day the diagonal shadows in the fog created something special.

(Canon 5D Mark III, Canon EF 100–400mm f/4.5–5.6 L IS lens 350mm, ISO 100, f/22, 1/40 of a second, Benro Tripod with Acratech Ballhead)

WILD LANDSCAPES **SECOND PLACE**

Dwayne McDowell, Mill Spring
Lightning, Mill Spring

I love to shoot lightning pictures. On July 7 after church I could hear it thundering in the distance. So I grabbed my gear and went to the end of Aden Green Road. From there you have clear views toward Black Mountain and Marion.

(Canon 5D Mark III, Canon 24–105 mm F4L lens at 24mm, ISO 400, f/8, 6 second exposure)

WILD LANDSCAPES **THIRD PLACE**

Wick Smith, Fayetteville
Rime ice on trees, Grandfather Mountain

In mid-October 2009, there was a bit of fall color left in the higher altitudes around Grandfather Mountain. I could see rime ice forming on the peak so I entered the main gate in hopes of getting to the top for a unique photo or two. They had closed off the road above the visitor center due to the ice. I got this photo from Linville Bluffs. The remaining fall color and the rime ice forming on the bare trees was a unique sight to see.

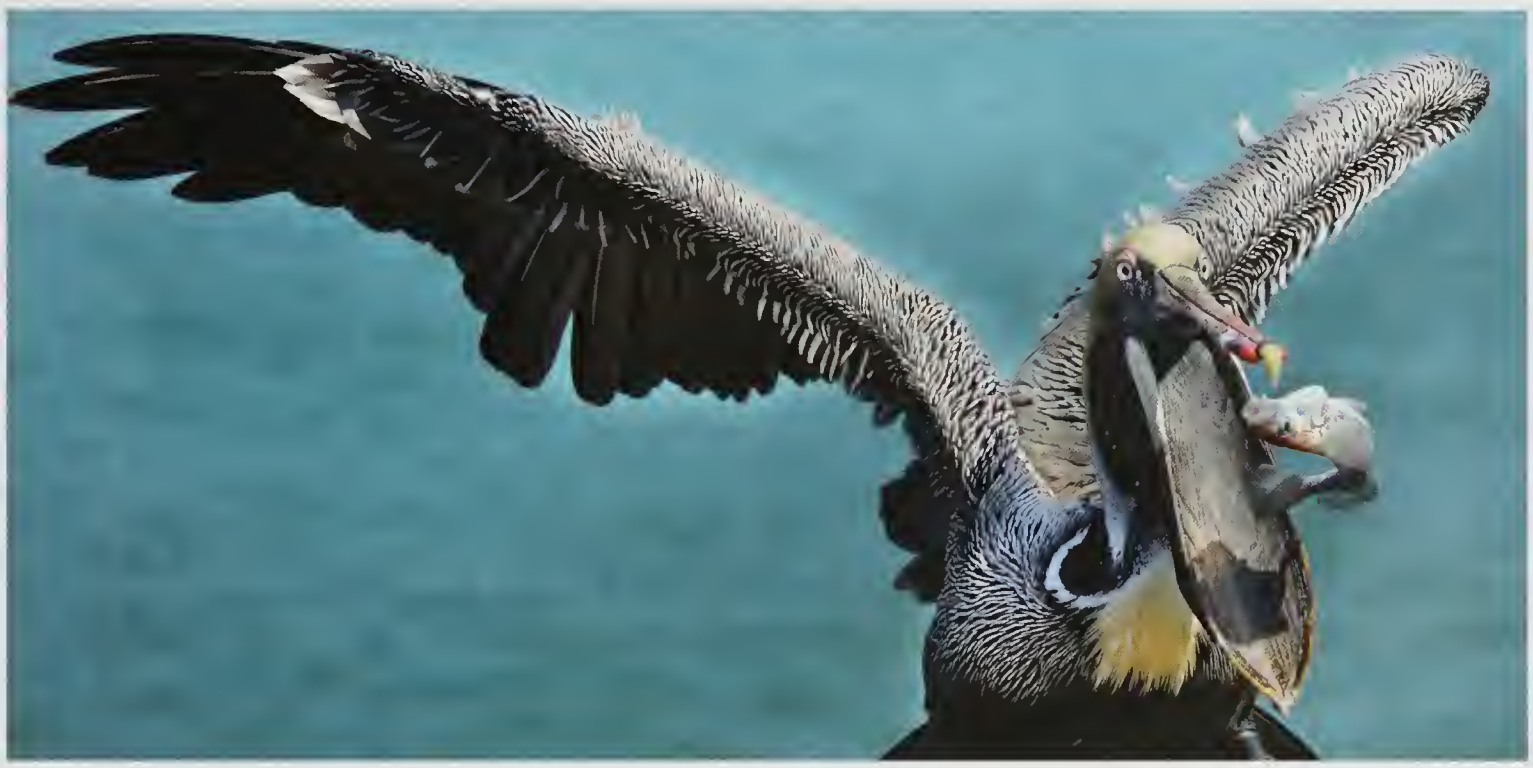
(Canon 5D II, 24–105mm at 24mm, ISO 640, f/11, 1/320 of a second)

ANIMAL BEHAVIOR **FIRST PLACE**

Alan Clark, Raleigh
Towhee, Raleigh

Towhees are a favorite subject, particularly the males, which resemble miniature roosters when calling. I happened to be shooting birds in my back yard when this male landed nearby and started "crowing."

(Nikon D7100, Nikon 500mm AFS-II f/4 lens and Nikon 1.7x teleconverter (850mm digital focal length), ISO 1600, f/6.7, 1/80 of a second, Gitzo tripod with a Wimberly sidekick and Acratech ballhead)



ANIMAL BEHAVIOR
SECOND PLACE

Gene Furr, Raleigh
Brown pelican, Kure Beach

I was at Kure Beach searching for pelicans when I saw a pelican dive into the water and catch a fish. After he caught the fish he flew up to the pier and landed. I was close to where he landed therefore decided to do a portrait when at once he open his beak and threw a fish up in the air and caught it when it came down. It was being in the right place at the right time, plus some luck.

(Nikon D4, Nikon 70–200mm/2.8 zoom with a 1.4 extender, ISO 800, f/8, 1/4000 of a second)

ANIMAL BEHAVIOR
THIRD PLACE

Skip Sickler, Newland
Red-winged blackbirds, Pungo Lake

This image was captured in mid-January 2014 during a trip to Lake Mattamuskeet and Pocosin Lakes National Wildlife Refuge. The objective was to photograph the large concentration of waterfowl and shorebirds present during the winter months. While photographing the snow geese and tundra swans on Pungo Lake one cold sunrise, this large flock of red-winged blackbirds flew toward our viewing station. I especially liked the mix of focused and unfocused birds and their various flight silhouettes.

(Nikon D3s, Nikon 400mm f/2.8, ISO 6400; f/2.8, 1/1600 of a second, aperture priority)

YOUTH PHOTOGRAPHER 13–17
FIRST PLACE

Jacob Thomas, Waxhaw
Honeybee, Waxhaw

I was taking a stroll outside when I came across this busy little fellow. Right away I was struck by the marvelous texture of pollen coating his body. I just knew I had to get a shot of this little dude. I followed him as he went from flower to flower until I finally captured this picture of him.

(Nikon D5200, Nikon 55–300mm VR lens at 300mm, ISO 900, f/5.6, 1/500 of a second)

YOUTH PHOTOGRAPHER 13–17
SECOND PLACE

Lily Hart, Sunbury, Ohio
Foothills setting, Franklin

I absolutely adore the mountains and photography, so I saw our family vacation to North Carolina as an incredible photo-op. When we go on vacation to North Carolina, we often visit Cherokee Mine to look for gems. I got particularly bored with it so I took a walk down the road to find this perfect view. I had to capture it.

(Nikon D5100, AF-S DX Nikkor 18–55mm f/3.5-5.6G VR, ISO 200, f/5.6, 1/125 of a second)

YOUTH PHOTOGRAPHER 13–17
THIRD PLACE

Brandon Bailey, Browns Summit
Hummingbird, Browns Summit

I took this one evening this past summer sitting on the back porch. This hummingbird was flying around a feeder and she hovered in place for a few seconds, allowing me to get a shot at her, as she was flying off. As is their tendency, she didn't stay around for a second shot but instead flew off and returned later when in need of more sustenance.

(Nikon D5100, 280mm, ISO 400, f/8, 1/200 of a second)

YOUTH PHOTOGRAPHER 13–17
HONORABLE MENTION

Anwesha Nandi, Chapel Hill
Eastern daisy fleabanes, Chapel Hill

There's a trail behind my house that is overgrown with Eastern daisy fleabanes. When I saw them, they reminded me of spring. Although I saw these flowers all the time, I felt an impulse to take a picture. I got my camera and got as close as I could to the petals and tried my best to capture the feeling of revival and renewal that I get every time I see them.

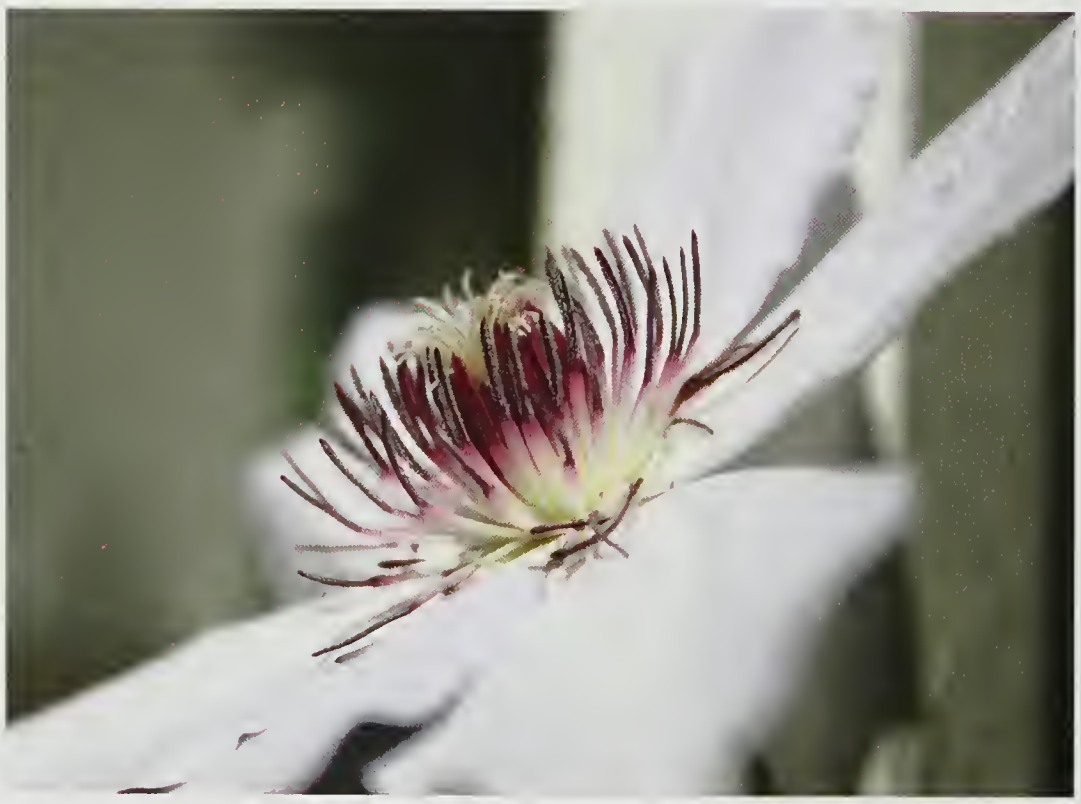
(Sony Cybershot DSCW55, 6.3mm, ISO 100, f/2.8, 1/200 of a second)

YOUTH PHOTOGRAPHER 13–17
HONORABLE MENTION

Lelan Yung, Cary
Pier at sunrise, Wrightsville Beach

I walked along the beach on a peaceful morning near the end of summer, seeing if I could get a good photo. As the sun lazily started to rise, I set up my gear behind a pier for a subject. After a few tries with an extremely lagging shutter, I finally got a decent shot. I feel like the beaches were the best place to get pictures in North Carolina, as it is one of the state's most popular tourist attractions.

(Nikon D5000, Nikkor 18–55, ISO 200, f/29, 3 second exposure)



YOUTH PHOTOGRAPHER 13–17
HONORABLE MENTION

Cailin Lucero, Hillsborough
Clematis, Hillsborough

I took the photo in June of 2012. I noticed that it was a beautiful day outside, and I did not want to waste the day by sitting on the couch and watching television. Off of our back deck, there are stairs leading into the back yard. At the base of those stairs, my mom had planted a clematis flower that had started wrapping around the railing. Intrigued by the bright and beautiful bloom, I took several photos with different angles.

(Canon EOS Digital Rebel, Canon EFS 18–55mm, at 55mm, ISO 100, f/5.6, 1/200 of a second)

YOUTH PHOTOGRAPHER 12 & UNDER
FIRST PLACE

Austin Ellison, Clemmons
Shrimp, Sunset Beach

When this picture was taken my dad and I were at Sunset Beach. I thought of this picture when all that we caught was one little shrimp. We took a break, put him up on a pole and took his picture. It was a fun day with my dad.

(Canon Powershot G11, 6mm, ISO 160, f/4, 1/1000 of a second)

YOUTH PHOTOGRAPHER 12 & UNDER
SECOND PLACE

Katie Davis, Asheville
Kayakers, Bryson City

My family had been rafting on the Nantahala River in Bryson City that day, and it was my first time rafting. After we finished rafting, we watched kayakers practicing skills. At the Nantahala Rafting Center, which is the end of the rafting trip, there is a concrete overlook that gives people a great way to watch the kayakers. I took the photo because it was a good perspective to view the kayakers, and I thought it was really cool that they could do all those tricks.

(Fuji FinePix E550, 7mm, ISO 100, f/2.8, 1/125 of a second)

YOUTH PHOTOGRAPHER 12 & UNDER
THIRD PLACE

Wylie Fenton, Havelock
Cicada, Havelock

I have always loved listening to cicadas during the summer nights. They can get so loud. Remember the cicada event of 2013? I wish I had gotten a chance to see them in my area. I saw hundreds of vacant cicada shells on an old oak tree a couple of summers ago, but never a live cicada during its molt. In June, I walked outside to let my dog out before bed and there it was stuck to the pole on our porch. It had just begun to stick its little head out of the hard, brown shell. I took lots of pictures that night because it was one of the coolest things I had ever seen. Little did I know that it is very rare to witness a molting cicada from beginning to end. Who knew that a regular, loud insect could be this neat!

(Nikon D40, Nikon 18–55mm lens at 55mm, ISO 200, f/5.6, 1/125 of a second)

YOUTH PHOTOGRAPHER 12 & UNDER
HONORABLE MENTION

Seth Finch, Rutherfordton
Honeybee, Rutherfordton

My brother is a beekeeper and we love bees. I wanted to see closely how our bees collect pollen. So I searched for a bee on the oak leaf hydrangea. I followed many bees during the afternoon until this bee landed in the ideal spot. I experimented with settings before photographing this bee with a large amount of pollen on her pollen baskets.

(Canon Powershot SX260 HS, 6.73mm, ISO 100, f/4, 1/160 of a second)

YOUTH PHOTOGRAPHER 12 & UNDER
HONORABLE MENTION

Elena Gorena, Clayton
Wild horse, Corolla

I love horses, so last summer we went driving on the beach in Corolla hoping to see some wild horses. To our surprise, we immediately saw a herd of four wild horses grazing right on top of the dune. This was one of the beautiful mares that I enjoyed watching as she walked, grazed and rested with her herd.

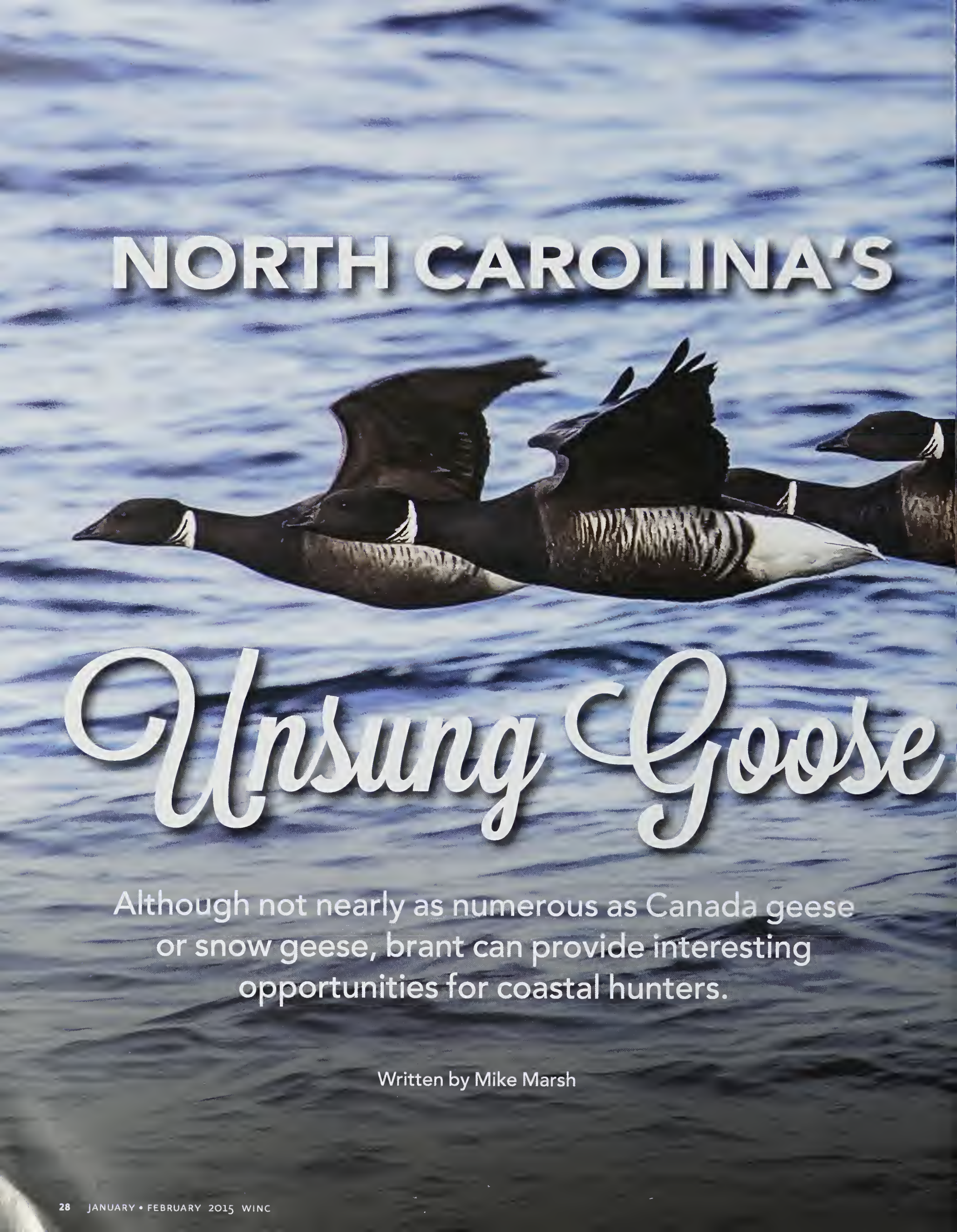
(Nikon D7000, Nikon AF-S DX 18–200mm, ISO 200, f/7.1, 1/800 of a second)

YOUTH PHOTOGRAPHER 12 & UNDER
HONORABLE MENTION

William Daughety, Edenton
Mockingbird chicks, Edenton

This photo was taken in the plum tree in our front yard where we had been watching a mockingbird sitting on her nest of eggs. When a friend came to pick plums she heard the babies and could see them open their mouths. I stood on a ladder and took pictures of the babies who thought we were the mama bird coming to feed them.

(Sony DSC-W330, 5mm, ISO 400, f/2.7, 1/100 of a second)



NORTH CAROLINA'S Unsung Goose

Although not nearly as numerous as Canada geese or snow geese, brant can provide interesting opportunities for coastal hunters.

Written by Mike Marsh

ANDREW A. REDING/FLICKR

For hunters, brant may be the most elusive of all of North Carolina's waterfowl species. However, hunters who really want to get to know these small geese can add one of these unique birds to their lifetime lists.

My first interaction with brant, *(Branta bernicula)* occurred while I was hunting waterfowl in Masonboro Sound quite a number of years ago. The big-game webfoot back then was the Canada goose, *(Branta canadensis).* Migratory Canada geese were quite a trophy and much of the season for them coincided with duck season. There were not many resident geese, which we often referred to as "crumb-catchers" or "tame geese" mostly fed by homeowners along the Intracoastal Waterway, and there were no special seasons for them as there are today.

The weather had turned inordinately nasty, with freezing rain and extreme cold for several days. A flock of goose-like birds decoyed to the three Flambeau Canada goose decoys I always set out with my duck decoy spread. Although I raised my shotgun to track the approaching birds, thinking they could be legal game, I did not shoot. The geese were comparatively small and made odd sounds, so I let them land. They turned their heads curiously, eyeing the goose decoys before swimming off.

Once back home, I looked the birds up in a field guide and discovered that they had been brant. A check of the hunting regulations also told me that they would have been legal to take. About as close as I could have described them was that they were of similar size and flight habit to protected cormorants. Later that week, I read an article by the outdoor columnist for the Wilmington paper at the time, who said the cold weather had brought brant down south to the local area and hunters were handily adding the unwary birds to their bags.

It was quite a number of years later that I would finally hunt brant intentionally, wisely using the services of one of the best big-water gunning guides in the state, Ken Dempsey. He said brant were plentiful in his home waters near Ocracoke Island. "The geese we have are the brant geese," he said.

MIKE MARSH

Guide Ken Dempsey surveys his decoy spread after a successful brant hunt in Pamlico Sound near Ocracoke.

"Their call is different from other geese. It's a trilling or tootling, not a honking."

My hunting partners were Phil Pare and his son, Greg Pare, of Wilmington. Dempsey had set up brant decoys at a traditional stake blind on a sandbar near Ocracoke Inlet. The blind had been brushed with cedar trees to hide the hunters' movements. However, he said brant were not extremely wary because we were hunting them in November, which the USFWS allowed that particular year.

"They start avoiding blinds later in the season," he said. "If you want one to mount, it's still better to hunt them later on. The earlier birds do not have all of the white on their head feathers that they do in December or January."

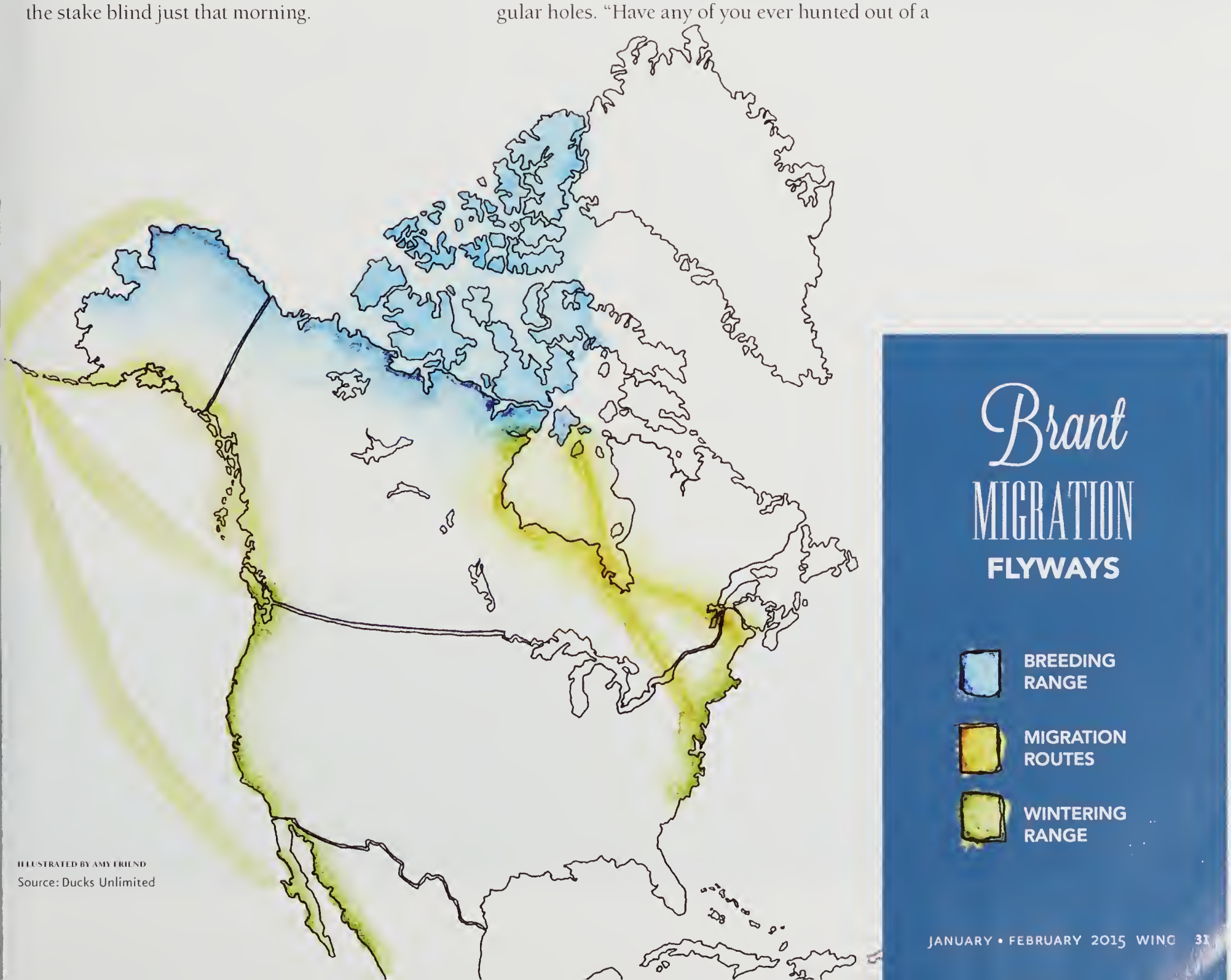
The daily bag limit for brant was three birds. By mid-morning, we had each downed our limit. Whenever a flock would fly by, Dempsey trilled his tongue on a repurposed snow goose call, imitating the tootling conversations of the birds to a T. All of the brant were retrieved by my black Lab, Santana, after he learned to climb an 8-foot ladder and bail out of the stake blind just that morning.

It was quite an event for all of us. But the following day was even more exciting. Dempsey collected us at Oden's Dock in his huge flat-bottomed skiff after we had spent the night in a motel. He navigated under full power, skimming across Pamlico Sound, using the stars for orientation initially, then checking the screen of a GPS unit that lit up his face in the darkness to home as he approached his target.

"You have to be able to look down, see water only inches deep, and stay hard on the throttle," he said. "If you slow down you are stuck on the sand and your hunt will end until the tide rises enough for you to push the boat off the bar."

In the darkness, it was difficult to see why he finally stopped. He anchored the boat and we all climbed over the side. He handed out our shotguns and gunning bags, telling us to carry only what we needed because there wasn't much room to hide much of anything.

Leading us, like a row of ducklings following their mother, to a sandbar that was about 2 feet above the surface of the water, he pointed out small, rectangular holes. "Have any of you ever hunted out of a



ILLUSTRATED BY AMY FRIEND
Source: Ducks Unlimited

coffin blind?" he asked. "If not, you may find it a little confining."

Dempsey is 6 feet 7 inches tall. For him, walking through the water was easy because of his long legs. Water that was shin-deep to him was knee-deep for us, so we were pretty winded as we loaded our guns and slid down into our gunning positions. Dempsey sloshed back to his boat and walked it at a hundred yards away before the water was deep enough for him to climb back inside and fire up the engine.

We stowed our gear behind our heads, where Dempsey had conveniently piled up some scant brush to break up the outlines of our caps. Santana lay down behind me, whining, his teeth chattering less because of the cold and more because of the anticipation of what dawn in this desolate place was certainly going to bring. There was nothing to see but water and sky. The small spit of sand was the only high point around other than the stake blinds that dotted the sound. What I remember most about the coffin blind was that I could not totally turn my toes upright. My feet had to lean in unison to the left or to the right or point away from one another. I was thinking that Dempsey may have been very tall, but his waders must have been smaller than my size 12s or he would have built his coffin blinds with more foot room.

THE SMALL SPIT OF SAND WAS THE ONLY HIGH POINT AROUND OTHER THAN THE STAKE BLINDS THAT DOTTED THE SOUND.

I slid in and out of the box until I was finally settling into the most comfortable position, toes pointing outward, when I heard Phil say, "Sit still. Brant."

A flock of brant was already gliding down. They hit the water with a slight rushing sound, nothing like the long glides and hard splashdowns of decoying Canada geese. Their approach was so silent that it appeared the decoys were being visited by apparitions, the brant appearing as nothing more than silhouettes against the pink glow of the imminent sunrise.

We flushed the flock and fired. Santana could not stand the excitement, and he broke to retrieve the birds before given the command. But he recovered five brant from the shallows before the tide could sweep them away. Several other flocks began circling, attracted to the movements of hunters and the dog. Brant don't form the diagonal V formations of other geese. Rather, they fly in loose flocks that rise and fall, erratically shifting small bunches of birds larger than ducks, smaller than Canada geese. But it was their tootling calls that confirmed their identities to a trio hunters unfamiliar with their habits.

Before Dempsey had stopped navigating his boat to a distance far enough away he figured it would not alarm decoying brant, we were done. He had not heard us calling him on the hand-held VHF radio he left for communication. "Something wrong?" he asked.

When we replied that we already had our limits, he said he had forgotten about Santana, a dedicated water dog easily capable of retrieving our nine brant.

It was one of the most memorable waterfowl hunts of the thousands I have participated in over the years. However, I have yet to bag a brant in full winter plumage for a taxidermist's mount. A hunter may hold out hope that he will decoy a brant someday, but outside their core area in the state, the odds of encountering one drop so far as to be playing impossible odds.

Joe Fuller is the N.C. Wildlife Commission's migratory game bird coordinator. I gave Fuller a call to check the status of brant because their numbers are so variable that season dates and bag limits appear to change almost annually. Brant management hinges on very small, difficult to substantiate numbers.

"The 2014 Atlantic Flyway mid-winter survey count of brant was 132,936," Fuller said. "Numbers for the Atlantic Flyway have fluctuated over the last five years from between 111,752 and 149,157. Brant

Brant MANAGEMENT PLAN

HUNTING SEASON GUIDELINES

STRATEGY 1

A closed hunting season will be considered when the Mid-Winter Survey index for Atlantic brant is less than 100,000. Aboriginal and sport hunters in Canada will be advised of the situation and requested to consider reducing their harvests.

are notoriously difficult to survey, especially when they occur in relatively small flocks. They tend to get off the water very far in front of the airplane, so you've got to get focused on them pretty quickly or you'll miss them. North Carolina's count does fluctuate as well, and I suspect partly due to this issue. We might miss one or two flocks and that can impact our count quite a bit. The North Carolina count for 2014 was 300 and has fluctuated over the last five years from between 0 and 1,690. We believe that the real number likely fluctuates from 1,000 to 3,000 brant in any given year."

Fuller said an Atlantic Brant Management Plan guides the harvest strategy. Compared to many other waterfowl species, the overall population is relatively small and the potential for it to fluctuate widely from year to year makes it more difficult to establish hunting regulations for brant than for most other waterfowl. "Environmental factors that impact the population on an annual basis are productivity on the breeding grounds and abundance and quality of wintering food items," Fuller said. "Productivity can be a bust some years due to their high Arctic nesting location, principally on Southampton and Baffin islands, and availability of wintering foods in their core wintering area in New York and New Jersey. Eelgrass and sea lettuce abundance can fluctuate quite a bit in these areas and lack of these foods does appear to have an impact on the following year's population. Estimates of the population size are monitored through the Atlantic Flyways' mid-winter survey."

Obviously, brant, even more so than other geese, are grazers. You won't find them feeding in corn stubble or winter wheat. Their more stringent diet is what concentrates them in a small area of the state.

"The primary food source for brant in North Carolina is submerged aquatic vegetation, principally eelgrass, but they probably also consume shoal grass and perhaps wigeon grass," Fuller said. "They will occasionally feed in the marsh on cord grass. They're likely concentrated in this area due to the abundance of this type food."

JACOB S SPENDELOW / TRINGA PHOTOGRAPHY

The brant is a small goose that breeds in the Arctic and winters along both coasts. Those on the Atlantic coast have light plumage on the bellies, while Pacific brant have dark belly plumage and were once thought to be a separate species.

A freelance hunt for brant is possible in North Carolina. However, in waters of Dare and Hyde counties where brant are most likely to occur, hunters will encounter difficult hunting conditions including shoals and bars with nowhere to hide and local regulations regarding hunting blinds. The best bet for hunters from outside the area is to hire the services of a professional guide.

"It's one of the most unique hunts available in the state," Dempsey said. "Hearing brant calling and seeing them flying in their native habitat has to be one of the most beautiful sights in all of waterfowl hunting."

Wilmington writer Mike Marsh is a frequent contributor to Wildlife in North Carolina.

STRATEGY 2
A sport-hunting season consisting of 30 days and a two-bird bag will be considered when the MWS index is between 100,000 and 125,000.

STRATEGY 3
A sport-hunting season of 50 days and a two-bird bag will be considered when the MWS index estimate is between 125,000 and 150,000.

STRATEGY 4
A sport-hunting season of 60 days and a two-bird bag will be considered when the MWS index is between 150,000 and 200,000.

STRATEGY 5
A sport-hunting season of 60 days and a three-bird bag will be considered when the MWS index is greater than 200,000.

WHERE'S WALDO?

Sixth Grade Students at Exploris Middle School took to the woods to find out.

Written by Zoe Hansen, Michael O'Neill, Fritz Clingroth, Emma Lettie and Max Wright

Exploris Middle School teamed up with the Centennial Campus Center for Wildlife Education to track turtles as part of a nationwide project to find out more about Eastern box turtles (*Terrapene terrapene carolina*). Juliana Thomas' sixth grade class tracks them every Wednesday during the end of summer, throughout fall and spring, and analyzes the data in the winter, while the turtles are hibernating. They have been tracking turtles for about seven years. What have they learned? Well, let's explore.

Students from Juliana Thomas' Exploris Middle School sixth grade classes have studied Eastern box turtles as an ongoing project to learn about data analysis, telemetry tracking and more about the species in general.

What They Do

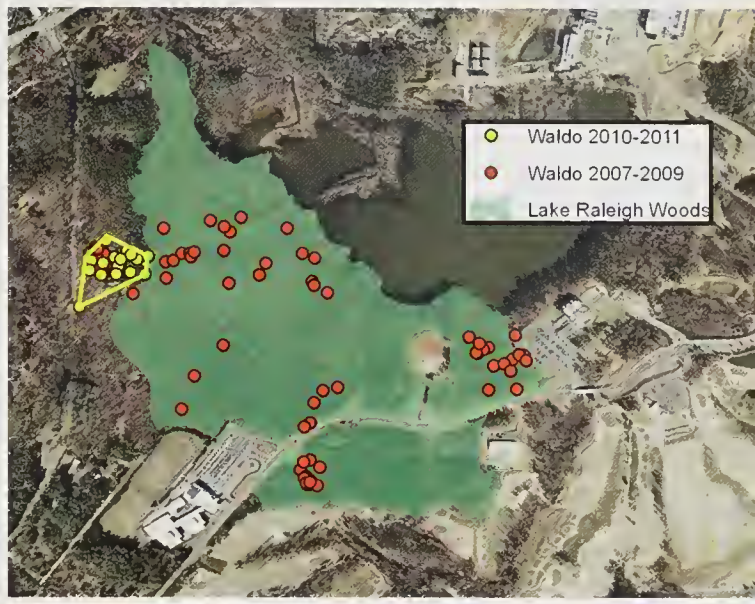
Exploris students use telemetry to track the turtles. Each turtle has its own transmitter on its carapace, which sends out a signal to the receiver the students are holding. Once the turtle has been found, the students mark the turtle's exact GPS location. They also record different aspects of the turtle's environment, such as soil and air temperature, humidity and the turtle's body temperature. Students then take the information back to the Wildlife Center where they use the data to answer their questions by making maps on ArcGIS, a computer program that helps create maps. They learn about the turtle's behavior and preferences. Students use the maps to draw conclusions about the turtles' movements and behavior, based on the facts.

Relocation: Moving turtles to a better place?

I know what you're thinking. Of course! When you relocate them, you are thinking they are going to a nice new home, safe from cars, people and other hazards. But think of it this way. You get in a car accident and are in the hospital for weeks. Then, to prevent you from getting in another car wreck, the doctors move you to France. That country is a beautiful place, with lots of beautiful landmarks and sites to see. But you wouldn't know your way around France. You would have to work hard, that is, use a lot of energy, to find a job, a home and food to eat. The same thing happens with turtles. They are looking for food, shelter and places to thermoregulate, or maintain their body temperature. Turtles

Students Henry Long and Will Bickley created maps of turtle movement using ArcGIS, a computer program that helps create maps. Emma Lettie was the group's photographer. The students used radio telemetry to locate turtles that had transmitters glued to their carapaces.

PHOTOGRAPHS AND MAP BY EXPLORIS MIDDLE SCHOOL STUDENTS



have to walk everywhere, so a relocated turtle has to use more energy than a native turtle to find its niche within a home range.

Waldo, an Eastern box turtle, was hit by a car on Hillsborough Street about seven years ago and was taken to the turtle rescue team at N.C. State College of Veterinary Medicine to recover from his injuries. Then he was taken to the Centennial Campus Center for Wildlife Education to be rehabilitated. From there, a transmitter was glued on his shell so he could be tracked. For years, students have tracked Waldo and his fellow turtles. Waldo eventually died after five years. We do not know the exact cause of death, but based on the information collected, we think it had to do with relocation. At the new place for him, he had to use a lot more energy than a native turtle to move around to find his home range and food. This left him with less energy for other body functions, and eventually his immune system wasn't working as it should, making him susceptible to diseases. By looking at data collected a few months before he died, we noticed he was losing weight. This search for a new home range, which caused an increased use of energy for this purpose, probably weakened his immune system. On one of the maps made showing his location points, we realized that he had eventually found a home range, but more than a year after he was found dead. The Wildlife Center found him decomposing in the woods.

How the Waldo Project Began

Kim Burge, a former wildlife education specialist at the Wildlife Center, started the Waldo project in 2006. She had been using radio telemetry at the Wildlife Center to find 3-D archery target animals. "I thought it would be a lot more fun to track real wildlife," she said. "Box turtles came to mind, so we attempted to find some in the Lake Raleigh Woods." Unfortunately, they came back empty-handed. The vet school at NCSU wanted to study the effects of relocation and the Wildlife Center wanted a turtle to track. Waldo had been hit by a car and needed a new home, so everything fell in place to get started with the turtle tracking program at the Lake Raleigh Woods.

When the Waldo Project started, Burge was very excited to track a turtle in the woods, but she also had some concerns. She wondered if Waldo would even survive. "Due to his injuries, Waldo wasn't able to turn over from his back to his belly," she said. Another concern of hers was about the kids. She wondered if students would be interested in finding turtles in the woods.

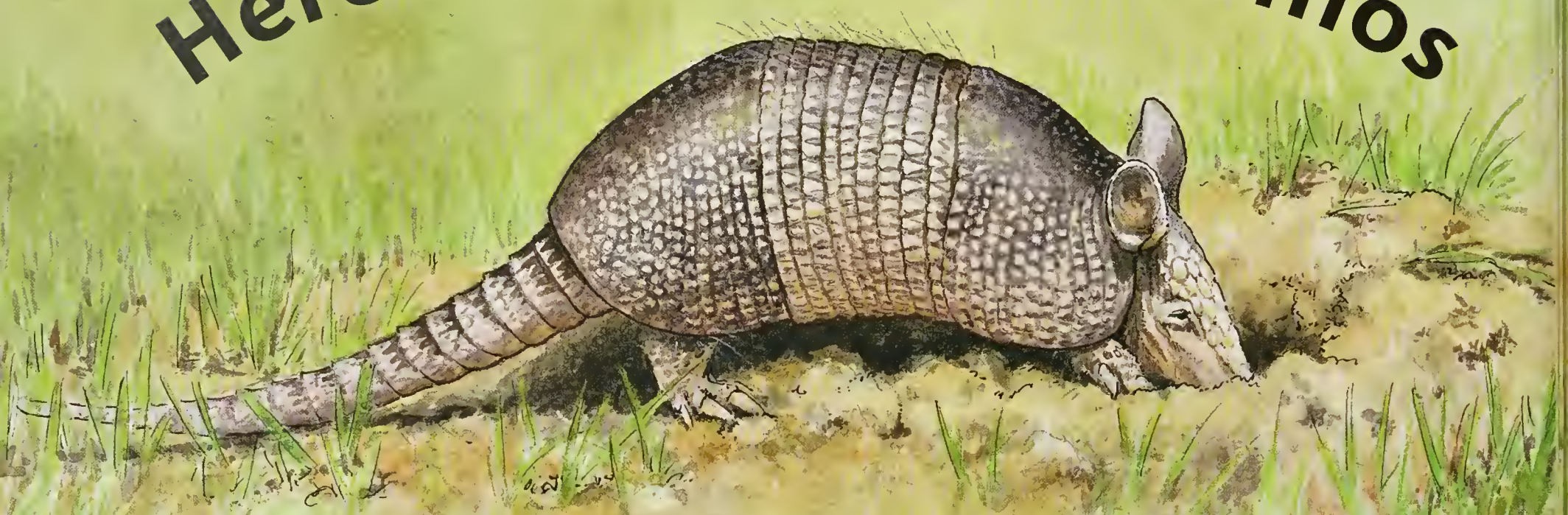
The Waldo Project was a big hit. Many people think box turtles are very likable and friendly. The turtles are a great way to get kids out in the woods. Plenty of children are afraid of things in the forest. "Thoughts of snakes and spiders were quickly forgotten when there was a turtle to be found," Burge said. "Students really enjoyed getting out of the classroom and into the forest."

The Waldo project is a fun way to get students learning out in the woods. The students learn a lot about box turtle behaviors and life cycle. The analysis of data collected is a part of the project. "I wanted the students analyzing real data," said Juliana Thomas. "The analysis of real data puts students in a real-world situation. This allows students to see the purpose of their learning while also connecting with nature." ◆

The authors were sixth-grade students at Exploris Middle School in Raleigh.

Watch out, bugs and grubs! Make way, humans!

Here Come the Armadillos



written by Terry Krautwurst / illustrated by Amelia Hansen / nature activity by Anne M. Runyon

The time: probably about seven years ago. The place: somewhere along our border with South Carolina, Georgia, or Tennessee.

An odd armored animal the size of a large housecat, but looking more like a small bony-plated dinosaur, shuffles along, nose to the ground. Grunting and huffing, it pokes its long snout into leaves and loose soil, sniffing for a meal of insects or grubs. *Snarfle, snort.* The creature takes another step, and then another — and becomes the first nine-banded armadillo to snuffle into North Carolina.

But it won't be the last!

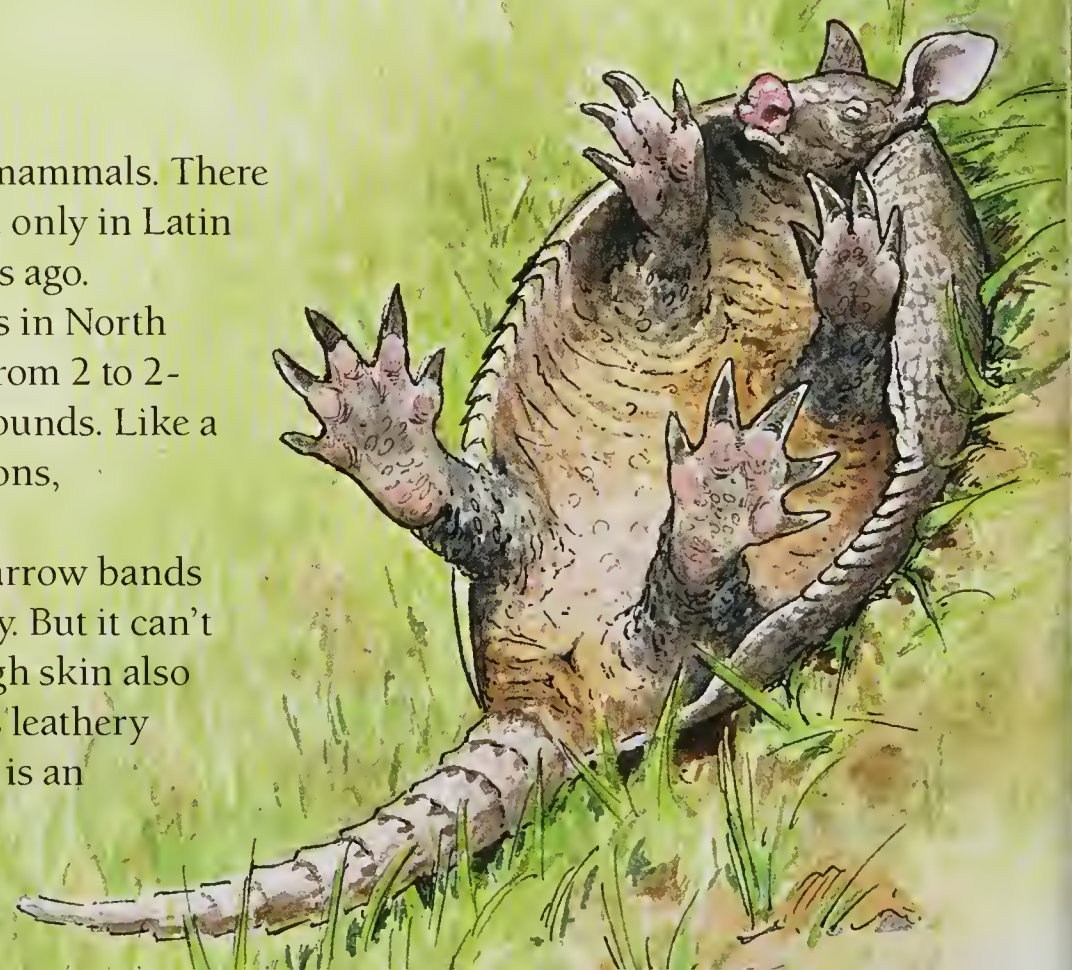
Over the past few years, state biologists have documented sightings of armadillos in a dozen counties. They expect the animals to spread eventually into much of the rest of the state. Armadillos have arrived in North Carolina — and they're probably here to stay.

MEET THE NEW NEIGHBORS

Armadillos are among the most ancient of Earth's mammals. There are at least 20 different species, or kinds. Most live only in Latin America, where armadillos evolved 60 million years ago.

Only one kind, the nine-banded armadillo, lives in North America. From nose tip to tail tip, adults measure from 2 to 2-and-a-half feet long and weigh between 8 and 17 pounds. Like a knight's suit of armor, the shell is jointed, in sections, to help the animal inside move more easily.

The nine-banded armadillo is named for the narrow bands around its midsection, which give it extra flexibility. But it can't curl up all the way into a ball. Bony plates and tough skin also cover its short-eared head and long, tapered tail. Its leathery underside is unprotected. An armadillo on its back is an armadillo in danger.



SLOW MOVER, SUPER SNIFFER

Heavy and awkward, armadillos usually move slowly, with a waddling gait. Their senses of sight and hearing are poor, but they are super sniffers. A nine-banded armadillo can smell food up to 8 inches underground. When it does, it digs a hole, pokes its long snout into the loosened soil and laps up the meal with its long, sticky tongue.

Armadillos eat mostly insects — beetles, ants, centipedes, millipedes, caterpillars, grasshoppers, grubs and almost any other buggy creature on or under the ground. They'll also eat berries, mushrooms, snails, slugs, frogs, lizards and — sometimes — bird eggs.

In Spanish, "armadillo" means "little armored one."

Armadillos' hard, protective covering is made of the same material as fingernails.

NOSING NORTHWARD

Nine-banded armadillos once lived only in Latin America. But they've been waddling farther and farther north and east into the U.S. ever since they were first spotted in Texas 160 years ago. Following their noses in search of food, they've spread throughout most of the South and as far north as Missouri. Some biologists think they'll eventually expand their range all the way to Illinois, Ohio, Pennsylvania and New Jersey.

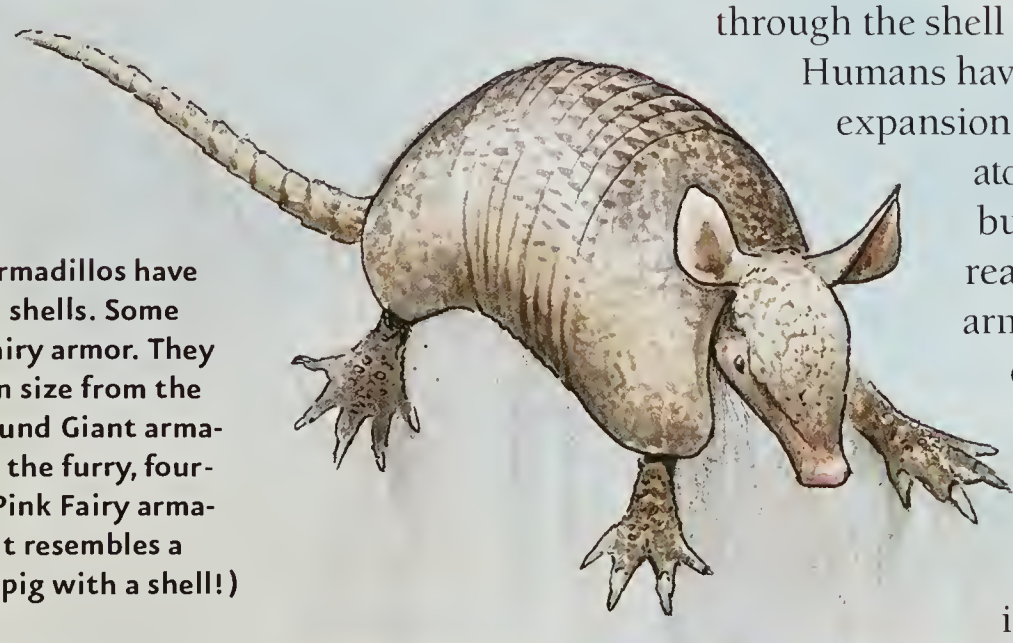
Armadillos aren't well insulated against frigid temperatures, and can't dig for food in frozen or hard, dry ground. So they probably won't move into desert regions or where winters are long and severe. Except for our highest, coldest mountain areas, most of North Carolina offers good armadillo habitat.

TOUGH TRAVELERS

Like pioneers heading into new lands, armadillos are tough. They don't let obstacles stop them. River or stream ahead? No problem. Able to hold its breath for up to six minutes, an armadillo can just walk across a stream bottom. Or it can swallow air to inflate its internal organs and paddle to shore.

If a dog, raccoon, coyote or other predator approaches, an armadillo can scurry surprisingly quickly to escape. If all else fails, it quickly digs a shallow trench and wedges its armored body in, nose-first. Most predators can't get through the shell and give up.

Humans have helped pave the way for the armadillo's expansion. We've eradicated most of its large predators, such as wolves and cougars. And we've built highways and bridges that provide ready-made paths. Unfortunately, a slow armadillo is no match for a fast car, so many end up as roadkill. When startled, an armadillo jumps straight up as much as 3 feet — sometimes into a surprised would-be predator's jaw, allowing the armadillo to escape, but also sometimes into a car passing above.



Some armadillos have colored shells. Some have hairy armor. They range in size from the 130-pound Giant armadillo to the furry, four-ounce Pink Fairy armadillo. (It resembles a guinea pig with a shell!)

MASTER MULTIPLIERS

Using their sharp front claws and powerful legs, armadillos dig burrows for shelter and for raising young. A burrow can be up to 20 feet long and 6 feet deep. It ends in a nest chamber lined with leaves and grasses.

Armadillos mate in July and August, but the babies aren't born until the following spring. The babies are almost always born four at a time: quadruplets! The pups are identical, all brothers or all sisters. Their soft, pink armor hardens and darkens as they grow.

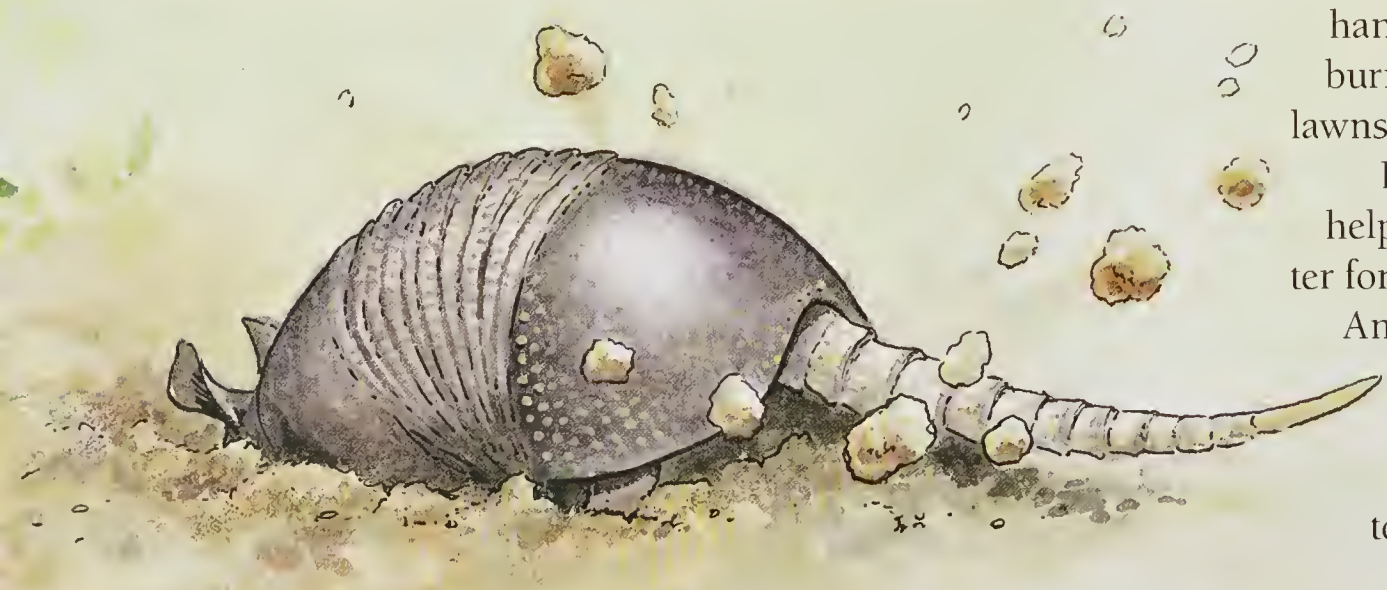
For several months, the youngsters stay close to their mother. Then they go off to find their own home territories. By its first birthday, an armadillo is old enough to start its own family. The animal's ability to multiply by fours every year is another reason for its successful spread.

TAR HEEL ROOTS

For hundreds of thousands of years, another kind of armadillo once roamed the region that now includes North Carolina. Known as *Dasypus bellus* or "beautiful armadillo," it looked like the nine-banded but was up to twice as large — some were over 3 feet tall. It became extinct about 12,000 years ago. Scientists are still finding its fossils.

Today's Tar heel armadillos are smaller but they'll surely get noticed as they become more common in our state. In some places armadillos may cause problems. Though mostly harmless, some may carry leprosy, a serious disease that can be transmitted to humans (this seldom occurs, but to be safe, avoid handling armadillos, or wear gloves). Their burrowing and digging for food can damage lawns and uproot plants.

But armadillos also are beneficial. They help aerate soil. Their burrows provide shelter for rabbits, opossums and other species. And the hungry miniature tanks gobble up pests that most homeowners don't want, such as wasps, termites and fire ants. Welcome, little armored one, to North Carolina.



Get Outside

Help biologists track armadillos. Scientists are trying to learn more about how armadillos migrate into new regions. Where will they appear next in our state? How far and fast will they expand their territories? The North Carolina Wildlife Resources Commission needs your help in answering these questions. Keep an eye out for armadillos and report any sightings. If you have a camera, take a photo. Even roadkill sightings are important clues. Note where and when you saw the animals, and how many there were. Report your sighting to Extension Wildlife Biologist Ann May at 919-707-0608 or ann.may@ncwildlife.org.

Read and Find Out

- "Don't Ever Cross That Road! An Armadillo Story" by Conrad J. Storad, The RGU Group, 2007.
- "Armadillo Trail: The Northward Journey of an Armadillo" by Stephen R. Swinburne, Boyds Mill Press, 2007.
- "The Nine-Banded Armadillo: A Natural History" by W. J. Loughry and Colleen M. McDonaugh, University of Oklahoma Press, 2013.

Find out more about Project WILD Workshops and literature at the Wildlife Commission's website at ncwildlife.org.

Armadillo Paper Sculpture

QUADRUPLETS

Nine-banded armadillos
Look like rounded armoured pillows
Their bodies have an armored shell,
A bone-afide porta-motel.

Each dillo son has three brothers.
Each daughter, sisters with three others
For Momma always births quadruplets
Identical within the grouplets.

One time, Moe, Joe, Shep and Curly,
Next time, Sue, Lu, Beth and Shirley.

from "Animal Mischief" by Rob Jackson
Published by Boyds Mill Press, 2006
Used with permission.

1) Copy design at 125% on good print paper (24 lb).

2) Cut out belly band and tail, set aside. Cut out body and fold in half lengthwise. Hint: Lay body along sharp edge of table, press down to create crease, then fold.

3) Accordion fold all 9 bands. Fold down along · · · · lines, using sharp edge of table. Fold up along the ----- lines. Place metal ruler along ----- line and crease paper up, pressing finger along edge on backside.

4) Fold all accordion bands tight. Place armadillo on back and fold in half lengthwise again. This will keep the bands folded.

5) Cut along black line on rump, slide right side over and glue to sculpt a rounded rump.

6) Lay armadillo on back. Gently press and roll up the bands using both hands (thumbs inside, fingers outside) to sculpt a cylindrical body shape.

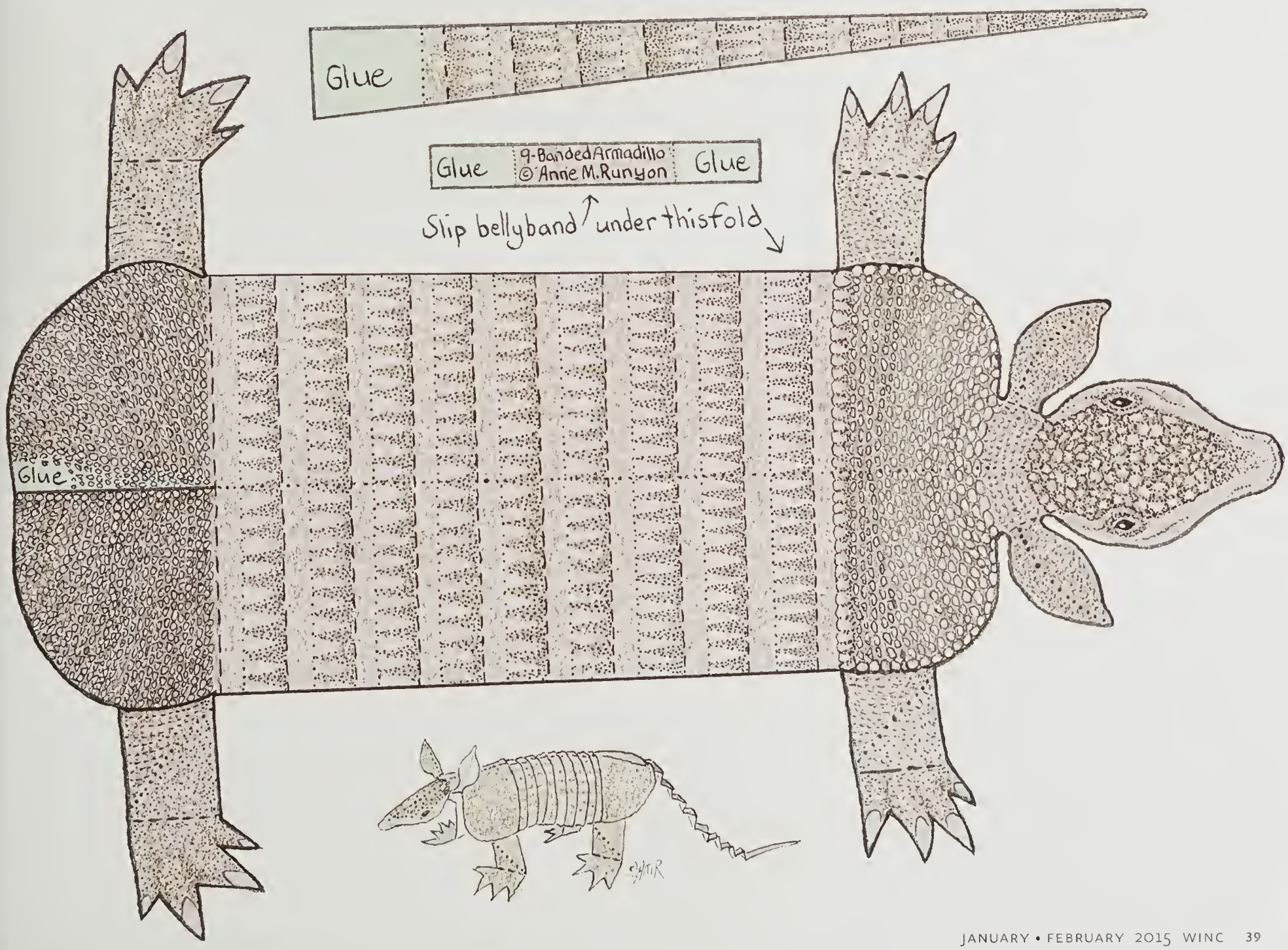
7) Glue belly band in to folds near front legs, one side at a time.

8) Fold ears up along ----- lines and pinch down along · · · · lines.

9) Gently fold head down along V between ears. Push pink cheeks down, and renew center fold to sculpt head.

10) Fold down along · · · · lines on legs. Fold up on ----- lines at feet.

11) Accordion fold tail. Pull to loosen and glue tail under rump.



Public Shooting Range Renovated in Sandhills

After undergoing extensive renovations, the shooting range at the John F. Lentz Hunter Education Complex, which is owned and operated by the N.C. Wildlife Resources Commission, is now open to the public.

The shooting range has a 100-yard rifle range with six shooting lanes and a 25-yard pistol range that can be set up for either three or six shooting lanes. It also offers skeet and trap ranges, as well as a five-stand sporting clays range, a standard archery range and a 3-D archery range.

The shooting range, which is free to use, is located at 2030 Gibson Mill Road in Ellerbe, in Richmond County. It is open from 9 a.m. to 4 p.m., Tuesday-Saturday, from Labor Day to Memorial Day, and from 10 a.m. to 5:30 p.m. from Memorial Day to Labor Day. The range is closed on Sundays, Mondays and state holidays.

JENNY HARRIS / NCWRC

Patrons try out the skeet range and archery range at the John F. Lentz Shooting Complex in Ellerbe.

The Wildlife Commission used hunting license receipts and Pittman-Robertson Act funds—10 percent excise taxes collected from manufacturers of guns and ammunition—to renovate and manage the shooting range.

The commission named the shooting complex in honor of Ellerbe native John Franklin Lentz, a former wildlife commissioner and avid hunter and conservationist who passed away in August.

The John F. Lentz Shooting Complex is the third range the commission has constructed or renovated in the Piedmont Region this year to provide the public with more and better places to shoot. The other two shooting ranges are Flintlock Valley Shooting Range, located in the Uwharrie National Forest in Montgomery County, and the Caswell Shooting Range, which opened in August on the R. Wayne Bailey-Caswell Game Land in Yanceyville.

The commission has additional plans to construct shooting ranges in other parts of the state, according to Erik Christofferson, chief of the commission's Division of Engineering and Lands Management.

"As part of the agency's mission to provide places across the state where the public can go to shoot, we will soon be constructing two shooting ranges—one in Cleveland County, which is located in the foothills of the Blue Ridge Mountains, and the other in Pender County on the Holly Shelter Game Land," Christofferson said. "We continue to look for opportunities to build additional shooting ranges that offer a safe environment for hunters and shooting public to hone their skills."

e NEWSLETTER
Get N.C. Wildlife Update—news including season dates, bag limits, legislative updates and more—delivered to your Inbox from the N.C. Wildlife Resources Commission. Sign up at ncwildlife.org/enews.

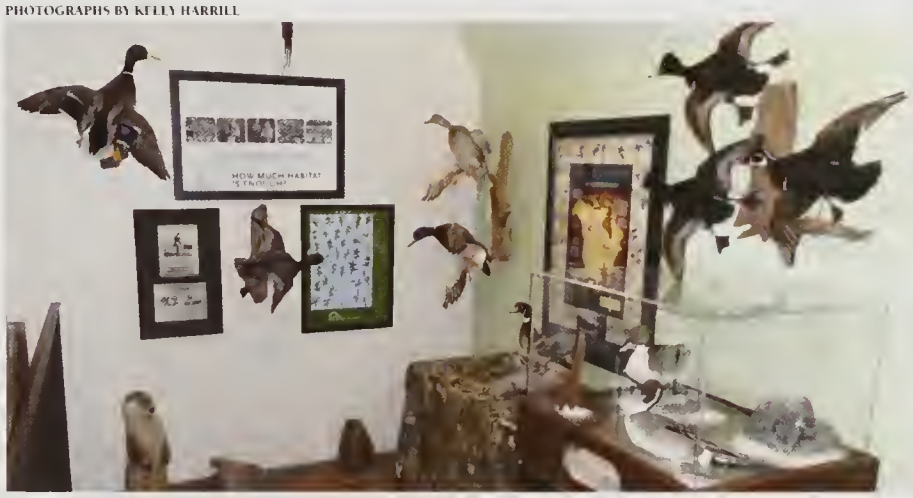
Girl Scout Gets Gold With Wildlife

Haley Harrill of Greensboro thought the Frank L. Sharpe Wildlife Education Center in Bur-Mill Park needed some sprucing up. So, Harrill and 10 or so team members she recruited renovated the exhibits and built a website to showcase the center, spending about 100 man-hours before completion.

Why did she choose a wildlife-related project? "Today's youth are not as engaged in the outdoors as kids used to be," said Harrill. " The reason behind this is that there are so many distractions such as cell phones, video games, even school work and other commitments like sports or clubs. Because of these distractions, today's youth aren't being fully educated and made aware of all the joys that the outdoors can bring."

Harrill, 18, is a graduate of Greensboro Day School and a freshman at Appalachian State University. Her project lasted from June 2012 to Nov. 2013. Among her team were project consultants Tracy Pegram of Bur-Mill Park and Eddie Bridges of the N.C. Wildlife Habitat Foundation, and helpers Maggie Harrill, Nick Nelson, Josie Vanore and Alex Harrill. Pixils, a Greensboro-based digital communications company, helped with the new website. The commission helped out with a CD full of wildlife images, which Harrill printed and mounted with identification.

PHOTOGRAPHS BY KELLY HARRILL



Haley Harrill of Greensboro, top, renovated exhibits at the Frank L. Sharpe Wildlife Education Center to earn her Gold Award in Girl Scouts.

January 2015 Public Hearings Schedule

Proposed changes in wildlife and fisheries management rules will be discussed. All hearing times are 7 p.m.

DATE	DISTRICT	CITY	LOCATION
Jan. 6, 2015	4	Dublin	Bladen Community College
Jan. 7, 2015	5	Graham	Courthouse
Jan. 8, 2015	6	Norwood	South Stanly High School
Jan. 13, 2015	9	Murphy	Tri-County Community College
Jan. 14, 2015	8	Morganton	Municipal Auditorium
Jan. 15, 2015	7	Wilkesboro	The Walker Center, Wilkes Community College
Jan. 20, 2015	1	Edenton	Swain Auditorium
Jan. 21, 2015	2	New Bern	Courthouse
Jan. 22, 2015	3	Smithfield	Johnston Community College

IN SEASON

In January and February, these seasons are open in North Carolina:

Black Bear: Through Jan. 1 (see *Regulations Digest* for locations).

Bobcat: Through Feb. 28.

Brant: Through Jan. 24.

Canada Goose and White-Fronted Goose: Resident Population Zone through Feb. 7; Northeast Hunt Zone (permit only) Jan. 9–Jan. 24.

Common Snipe: Through Feb. 28.

Crow: Through Feb. 28.

Ducks, Coot and Mergansers: Through Jan. 24.

Sea Ducks (In special sea duck area only): Through Jan. 31.

Fox: See *Regulations Digest* for seasons and locations.

Hatchery Supported Trout Waters: Through Feb. 28.

Light Geese (Snow, Blue and Ross'): Through March 7.

Mourning Dove: Through Jan. 15.

Pheasant: Through Feb. 1.

Quail: Through Feb. 28.

Rabbit: Through Feb. 28.

Raccoon and Opossum: Through Feb. 28.

Ruffed Grouse: Through Feb. 28.

Squirrel: Gray and red through Feb. 28.

Tundra Swan: Through Jan. 31, by permit only.

White-Tailed Deer: Eastern, Central and Northwestern through Jan. 1. Western is closed.

Woodcock: Through Jan. 31.

Youth Waterfowl Days: Jan. 31 and Feb. 7.

There is no closed season or bag limit for feral swine, groundhog, striped skunk, nutria and armadillo. There is an open season for taking beaver with firearms or bow and arrow during any other open season for the taking of wild animals.

Check the latest *North Carolina Inland Fishing, Hunting and Trapping Regulations Digest* for bag limits and applicable maps or visit ncwildlife.org.

Sunday, Jan. 11

It may be cold outside, but that's no reason to stay home. Head out to the 25th Bass & Saltwater Fishing Expo at the State Fair Grounds in Raleigh. The Jim Graham Building and the Exposition Center will have marine dealers, tackle dealers and there will be a full slate of seminars from professional anglers and guides. Plenty of interactive stuff for kids. Go to ncboatshows.com.

Thursday–Friday, Jan. 8–9

You're out in the woods enjoying a perfectly beautiful day when you realize you are lost. Don't panic! Come to the Centennial Center in Raleigh to learn how to stay alive until the searchers find you. Classes will include shelter making and fire starting. January 8: EcoExplorers ages 8–12 and January 9: Adults ages 13+. Go to ncwildlife.org.

Friday–Sunday, Feb. 6–8

The 20th Annual East Carolina Wildlife Arts and Decoy Carving Festival is slated for Washington. The new Duck Stamp winner will be announced and there is plenty of wildlife art for sale along with duck calling and decoy carving competitions. Visit ecwguild.com.

Friday–Saturday, Feb. 6–7

The Fly Fishing Show returns to the Benton Convention Center in Winston-Salem. Hours are 9 a.m.–6 p.m. Friday and 9 a.m.–5 p.m. Saturday. Among the celebrity anglers will be Lefty Kreh and Bob Clouser. Visit flyfishingshow.com.

Friday–Sunday, Feb. 27–March 1

The 35th Annual Dixie Deer Classic, sponsored by the Wake County Wildlife Club, will take place at the North Carolina Fairgrounds' Dorton Arena, Jim Graham Building and Exposition Center in Raleigh. The show will have exhibitors from many areas of hunting, plus seminars. With a paid admission, hunters may have their shoulder mount or rack mount scored. Visit dixiedeerclassic.org.

Readers should check with the contact listed before traveling to an event. Items for listing should be conservation-oriented and should be submitted at least four months in advance to mike.zlotnicki@ncwildlife.org, or call (919) 707-0175.

Check Off to Help Wildlife

Tax Day may be three months away, but some folks get them done early, and the N.C. Wildlife Resources Commission would like taxpayers to remember North Carolina wildlife this year when completing their state income tax form by making a donation on the appropriate line.

Because donations can be matched with federal and other grants, the Wildlife Commission can double your donations. For example, if you make a $50 donation, it can allow the commission to access $50 in matching grant money, resulting in nongame and endangered wildlife in North Carolina benefiting from $100 of support.

Online tax preparation software, such as TurboTax, does not have numbered lines, so e-filers will be asked if they would like to make a donation to the Nongame and Endangered Wildlife Fund. Other tax filers can also tell their tax preparer they would like to donate.

More than 1,000 nongame species—from sea turtles to songbirds—call the Tar Heel state home. Many species, such as gray tree frogs and Eastern towhees, are common and can be found and heard in your backyard. Others, such as sea turtles, Carolina northern flying squirrels and red-cockaded woodpeckers, are endangered and need conservation to prevent them from disappearing entirely from our state's landscape.

DAWN CHILDS/USGS

Sea turtle hatchlings

North Carolina's income tax donations have helped fund success stories, such as once-endangered species, like peregrine falcons and bald eagles, which now soar high in our Carolina blue skies.

The Nongame and Endangered Wildlife Fund's tax check-off donations made through line 31 of the state income tax form provide the largest and most significant source of non-federal funding for conservation projects to help these species. Every dollar of tax check-off donations the commission receives goes to the fund, where it matches federal and other grants, or is used to pay for educational activities and wildlife-watching projects like the North Carolina Birding Trail.

Commission Improves Rose Bay Access

The N.C. Wildlife Resources Commission re-opened the Rose Bay Boating Access Area in Hyde County after completing renovations in October.

The access area, located at 6740 U.S. Highway 264 E in Scranton, provides access to Pamlico Sound—a popular destination for anglers looking to catch red drum, Southern flounder and spotted sea trout.

Wildlife Commission staff completely renovated the area by constructing a new double boat ramp, floating dock, ADA-compliant parking and kiosks, which provide information about the area and fishing opportunities.

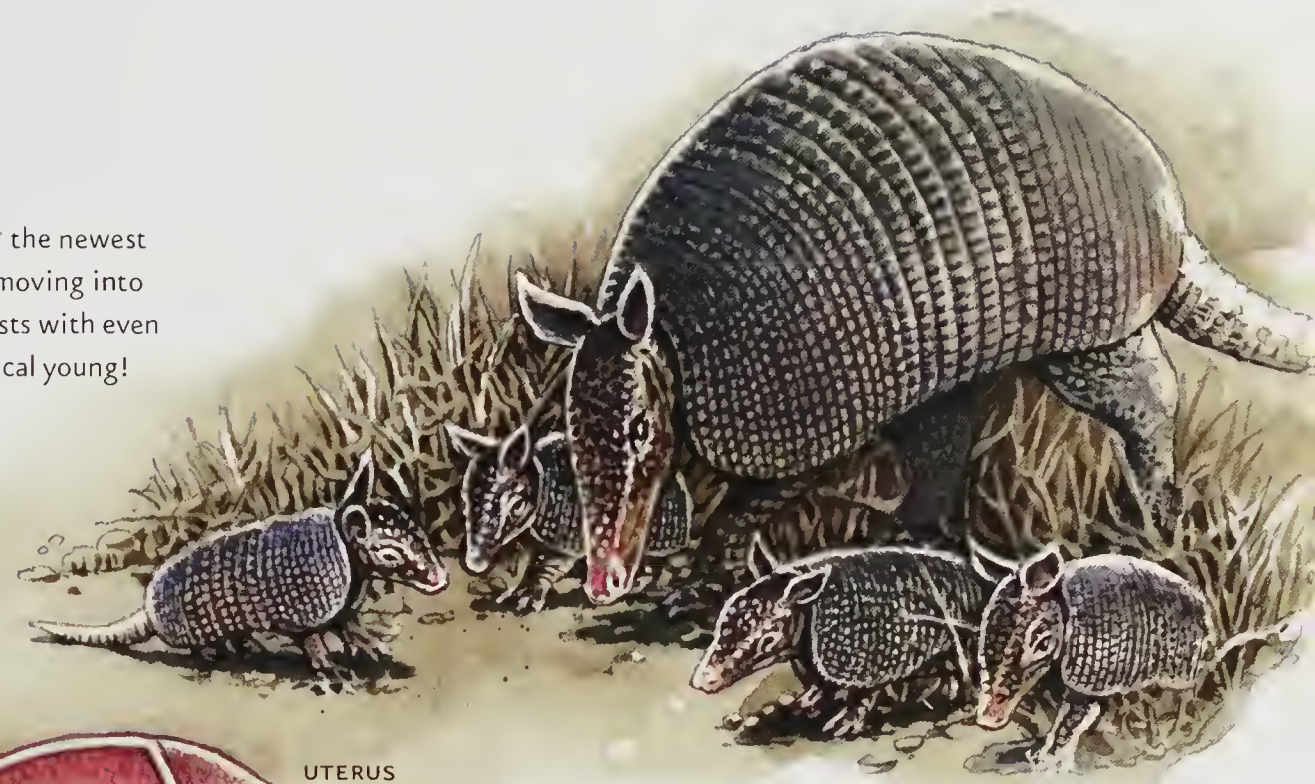
"We also installed security lights at the ramps and in the parking area to help early-bird and late-night boaters launch and recover their boats," said Erik Christofferson, chief of the commission's Division of Engineering and Lands Management. "This boating access area is a really popular spot with local anglers and boaters, as well as waterfowl hunters, so we're happy that the renovations are complete in time for winter waterfowl hunting."

The Wildlife Commission paid for renovations of the access area with money from motorboat registration receipts as well as a $250,000 coastal recreational fishing license grant from the N.C. Division of Marine Fisheries. For more information on boating in North Carolina go to ncwildlife.org.

Why Do Armadillos Always Have Four Babies?

written by Clyde Sorenson
illustrated by Jim Brown

THE NINE-BANDED ARMADILLO IS PROBABLY the newest addition to the mammal fauna of North Carolina; they are moving into the state from the south. Armadillos are curious looking beasts with even more curious biology — they always give birth to four identical young!



Armadillos are somewhat exceptional in that females produce only one egg each year. The female ovulates and mates in late summer. The egg begins dividing, as in most animals, shortly after fertilization, as it moves down the Fallopian tube towards the uterus. By the time it arrives in the head of the uterus, it has reached the blastocyst stage — basically a ball of several hundred largely undifferentiated cells.

FEMALE ARMADILLO REPRODUCTIVE SYSTEM

BLASTOCYST

FERTILIZED EGG

EGG

OVARY

UTERUS

Unlike in most animals, the developing embryo then ceases development for several months in a process called delayed implantation. This delay allows the animal to give birth during the spring, rather than the winter.

DIVIDING EMBRYOS

EMBRYOS AND PLACENTA

In mid-winter, the blastocyst finally implants in the uterus wall and resumes developing. Shortly after, two incipient embryos form on the blastocyst, and then two more, resulting in four identical embryos. All four share a common placenta.

BABY ARMADILLOS

Gestation takes about four and a half months, and most armadillos are born in the late spring. After spending about 50 days in the burrow they were born in, baby armadillos come out and begin feeding on the insects and other small animals they'll eat for the rest of their lives.

Crows and Such

When I drove into the farm early last fall, there were lots of signs that summer's lush season was beginning to wind down. Some hardwoods already sported a dash of tasteful color—nothing too gaudy yet—and though the sun was hot in mid-afternoon, there was noticeably less humidity. Already a fair number of doves were sitting on the power lines eyeing the wind-rattled and somewhat stunted corn that would soon be cut, and goldfinches were busy in the drooping sunflowers.

F. EUGENE HESTER

In one of the back fields, tobacco was being loaded onto a pair of ingeniously adapted "tobacco sleds"—two retired school buses with their roofs cut off below the windows from just behind their cabs all the way to their tail lights.

I finished my immediate chores, and had a notion I might fish an hour or so, but before I did that, I decided to walk into the pasture and see if my early ripening Moonglow pears were ready to harvest on a tree I'd planted about 20 years ago. I had already noticed some crows flying around that tree, but that was hardly unusual, and their motives were not immediately suspect.

"It's almost as though my green thumb aspirations hereabouts have become victims of a conspiracy."

Alas, I was not dealing with "some crows." At least a dozen were already in the tree, and more coming. They were dive-bombing that poor tree like World War I biplanes circling King Kong and, suddenly, I knew why. Those pears were most certainly ripe, and I was clearly not the only interested picker.

With crows fussing and swirling overhead, I inspected the damage. Many pears were already on the ground half-eaten, and had I arrived a day later, I'm convinced that every pear would have been gone. Of the few I managed to gather, most had already been pecked.

Indeed, my hope to enjoy as much as a single perfectly ripe pear has acquired tragic-comic aspects. Deer, standing on their back legs, invariably eat any they can reach and, one year, two-legged varmints driving a pickup truck used a ladder to strip the rest. It's almost as though my green thumb aspirations hereabouts have become victims of a conspiracy. In years past, beavers have eaten my cypress, deer have nipped off my sunflowers, and otters have stripped most of the bass and panfish out of a pond.

But I hadn't regarded crows as big-time fruit thieves until I caught them red-handed, and this apparently explains the wholesale disappearance of a promising crop of apples in a nearby orchard. Only winged marauders could reach apples in the tops of the trees.

This is a bit dismaying because I have always admired crows for their social interdependence and intelligence. And while they are legal to hunt, I've never been tempted to do so because I already eat enough crow in the figurative sense.

The American crow is common throughout much of North America, while its close kin, the fish crow, is typically found along the East and Gulf coasts. Both are significantly smaller than the common raven, which is largely a citizen of the west and north, though it's habitat also includes the Appalachians.

By bird standards, all are very intelligent and resourceful, especially the raven. American crows sometimes travel and roost in large flocks, and families of crows often remain together throughout a fairly long lifespan (one captive crow lived to the ripe old age of 59).

Their egalitarian appetite includes just about everything you can imagine—small animals and fish, insects, seeds, garbage and carrion—and they are particularly adept at robbing the nests of other birds, eating both eggs and young.

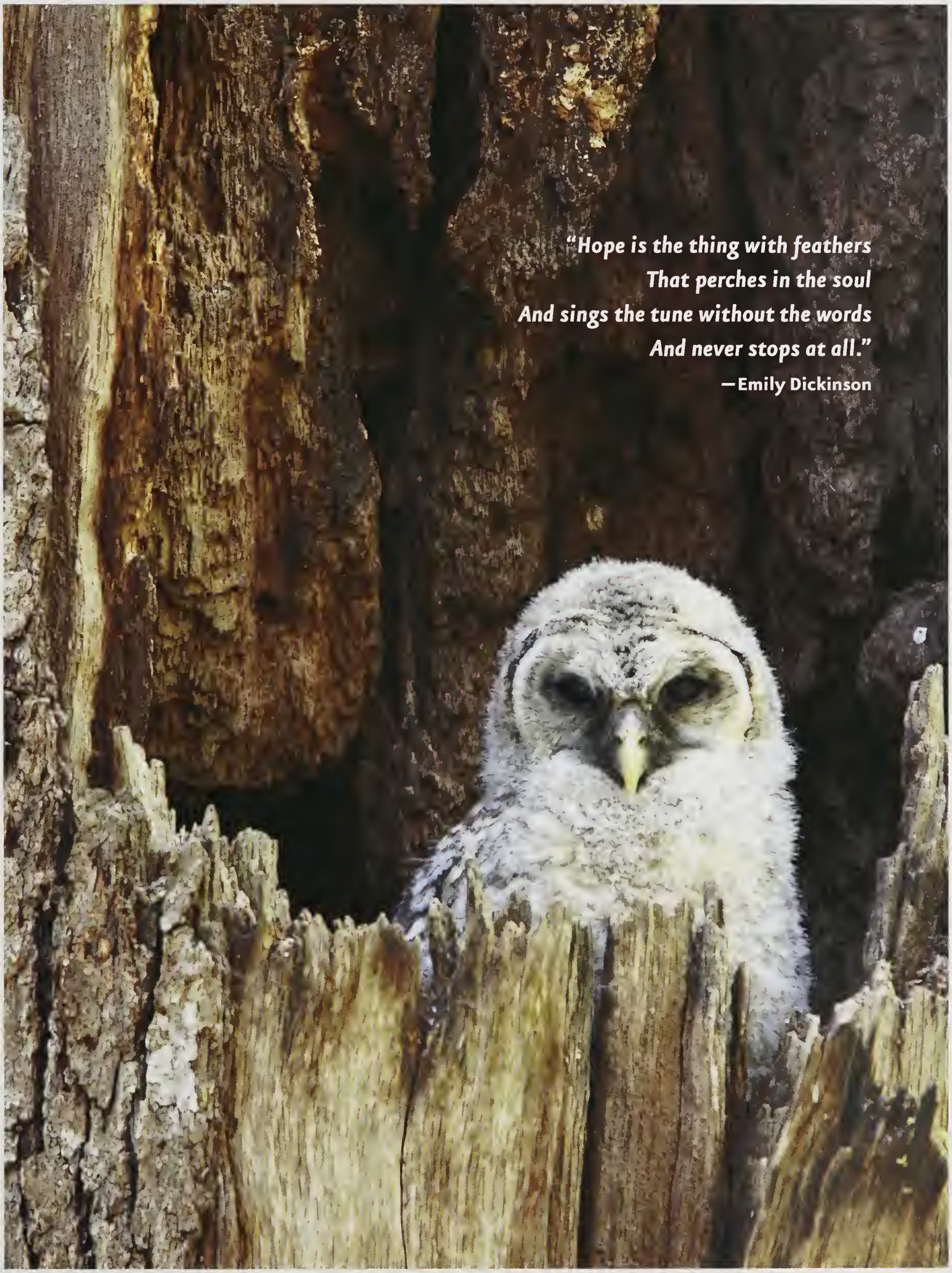
Crows and ravens have been observed using tools, most often a twig or thorn held in the beak to dig prey out of a bark crevice. They have a broad range of vocalizations, and can even mimic human speech. They also have the ability—or possibly just the refined instinct—to solve simple problems, often working together to do so.

Years ago, humorist Ed Zern (who wrote his "Exit Laughing" column for *Field & Stream*), observed that crows have a reputation for being able to understand simple mathematics, and could possibly count to at least three. Zern concocted an elaborate and hilarious scenario whereby hunters might overwhelm a crow's ability to add and subtract by sending varying numbers of hunters to and from a blind until the crows became confused (at which point one hunter would be left unbeknownst to the crows in the blind).

This seems unnecessarily complicated—that was Zern's comic point, of course—but I'm beginning to think that some sophisticated anti-crow tactics are going to be necessary if I ever hope to harvest another ripe pear or apple on this farm.

One acquaintance suggested using firecrackers to scare them off. Alas, researchers have discovered that the adaptable crow has learned to associate gunshots with opportunity, flocking to the source to beat the hunter to his downed prey.

It is looking more and more likely that I may have met my intellectual match.



TODD PUSSER

Barred owl chick

IN THE MARCH · APRIL ISSUE

MELISSA McGAW/NCWRC

TROPHY TROUT
At a small lake in the southwestern mountains, the Wildlife Commission is combining rainbow and brown trout with a very healthy forage base.

SEASON OF SILENCE
One of the thrills of turkey hunting is hearing a heart-stopping gobble shatter the woods. But what's a hunter to do when turkeys don't gobble?

FLY-ROD ALTERNATIVE
When conditions aren't right for fishing flies, inline spinners offer a great alternative for the light-tackle enthusiast.

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